SPECIFICAȚII TEHNICE (F4.1)

Numărul licitației: 21006336	Data 05-09.04.19	Alternativa nr.
Denumirea-achizitionarea reactivi pentru investigatii imunologice și consumabile pentru laborator	Lot	Pagina1din 4

COD CPV 33696500-0

Nr. d/o	Denumirea bunurilor	Modelul articolului	Țara de origi-ne	Produ-cătorul	Specificarea tehnică deplină solicitată	Specificarea tehnică deplină propusă de către ofertant	Staiîdar-de de referință
1	HbsAg	HBs Ag,ELISA ,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA cantitativ. 96 godeuri.	CE,ISO
2	Anti-HBs	HBs Ab ,ELISA ,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA cantitativ. 96 godeuri.	CE,ISO
3	Anti-HDV	HDV Ab,ELISA,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA. 96 godeuri.	CE,ISO
4	Anti-HBc	Anti-HBc,ELISA,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA. 96 godeuri.	CE,ISO
5	Ag Hbe/Ab	Hbe Ag/Ab,ELISA ,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA. 96 godeuri.	CE,ISO
6	Anti HCV summar	HCVAb,ELISA ,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA. 96 godeuri.	CE,ISO
7	PSA	PSA,ELISA ,96 teste	SUA	Monobind	vezi invitatia	Metoda ELISA cantitativ, cu streptavidină, 96 godeuri.	CE,ISO
8	Anti Helicobacter pylory IgG	H.Pylori IgG,ELISA ,96 teste	Italia	DiaPro	vezi invitatia	Metoda ELISA cantitativ. 96 godeuri.	CE,ISO
14	Azur –Eozină Romanovski soluție (fl din plastic)	Azur –Eozină Romanovski soluție (fl din plastic),1 L	Rusia	Minimed	Vezi invitatia	soluție (fl din plastic)	Cert.de calit
15	Vopsea p/u coloratir dupa Gramm	Set de colorație Gram 4x250ml/80293/ 38220000	Italia	Liofilchem	Vezi invitatia	lichidă	CE,ISO
17	Vopsea colorație reticulocite în eprubetă	Soluție Раствор бриллиантового крезилового синего для окраски ретикулоцитов (Диахим-Гемистейн-РТЦ) 50 мл	Rusia	Абрис	vezi invitatia	lichidă	Cert.de calit
18	Ulei de imersie	Ulei de imersie,100 ml	Rusia	Minimed	vezi invitatia	ambalaj 100 ml	Cert.de calit
21	Reagent monoclonal anti-A	Toliclon Anti-A cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	titrul anticorpilor – nu mai mic de 1:32 în metoda de apreciere pe suprafață , amb.10 ml	CE,ISO
22	Reagent monoclonal anti-B	Toliclon Anti-B cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	titrul anticorpilor – nu mai mic de 1:32 în metoda de apreciere pe suprafață ambalat 10 ml.	CE,ISO
23	Reagent monoclonal anti-AB	Toliclon Anti-AB cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	titrul anticorpilor – nu mai mic de 1:32 în metoda de apreciere pe suprafață ambalat 10 ml.	CE,ISO
24	Reagent monoclonal anti-A1	Toliclon Anti-A 1 cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	titrul anticorpilor – nu mai mic de 1:8 în metoda de apreciere pe suprafață ambalat în 5 ml	CE,ISO
25	Reagent monoclonal anti-D	Toliclon Anti-D super IgM cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	(IgM), titrul anticorpilor – nu mai mic de 1:32 în metoda de apreciere pe suprafață ambalaj 10 ml	CE,ISO
26	Reagent monoclonal anti-Kell	Toliclon Anti-Kell cu pipeta dozator, 10 ml	Rusia	Mediclon	Vezi invitatia	titrul anticorpilor – nu mai mic de 1:16 în metoda de apreciere pe suprafață ambalaj 10 ml	CE,ISO
27	Antigen cardiolipinic pentru RMP	Antigen cardiolipinic pentru RMP	Belarus	ХОПИБОХ	Vezi invitatia	ambalaj 20 ml	CE,ISO
28	Material p/u controlul calității urinei	BM-control (Set de control p-u proteina în urina) cu calibrator	Rusia	Mediclon	Vezi invitatia	pentru determinarea proteinei/urină cu 3 nivele	Cert.de calit
29	Proba cu timol	Proba cu timol 3*11 ml	Rusia	Agat	Vezi invitatia	set din 3fl x 11ml	Cert.de calit

30	Bandeletep/u analiza urinei „Combi 11+"	Meditest Combi 11,100 teste	Germania	Macherey Nagel	Vezi invitatia	1)bilirubină, 2)urobilinogen, 3)acetonă, 4)ac. ascorbinic, 5)glucoză, 6)proteină, 7)sânge, 8)pH, 9)nitriţi,, 10)Le, 11)gr. specifică - compatibile cu analizorul „Doc Ureader", CE , 100 unit.	CE,ISO
33	Pipeta serologica 1,0 ml,sterila	Pipeta 1ml sterila (23205), Kima	Italia	Kima	vezi invitatia	1,0 ml, sterilă, ambalată individual, CE	CE,ISO
34	Pipetă Pasteur,3,0 ml	Pipeta Pasteor 3ml, 200006.C	Spania	Deltalab	vezi invitatia	3,0 ml, gradat a cîte 0,5 ml, nesterilă, polipropilenă, CE	CE,ISO
35	Pipetă Pancenco, cu gradare pronunţată	Pipetă Pancenco, cu gradare pronunţată	Rusia	Minimed	Vezi invitatia	cu gradare pronunţată , în set de 100 de buc	Cert.de calit
36	Lama sticla lungimea 75 mm,grosimea-2 mm,latimea-25 mm,cu marginea slefuita,spalate,degresate	Lama sticla lungimea 75 mm,grosimea-2 mm,latimea-25 mm,cu marginea slefuita,spalate,degresate	Rusia	Minimed	Vezi invitatia	sticlă, lungimea 75mm, grosimea - 2mm, lăţimea - 25 mm, cu marginea şlefuită, spălate, degresate, ambalate ermetic, CE	Cert.de calit
37	Eprubetă conică din polipropilen cu capac , 10 ml	Eprubeta 10ml, 16*100, PP (18012)	Italia	Kima	Vezi invitatia	conică din polipropilen cu capac, CE	CE,ISO
38	Eprubetă sterilă ,0,5ml	Capilar p-u colect. singelui din deget K3EDTA, 100mkl KABE	Germania	Kabe	Vezi invitatia	sterilă pentru colectarea sângelui capilar cu K3EDTA, microcapilar-100 mcl, capac pentru transportarea probelor fixat de tub, CE , ambalate cîte 100 buc.	CE,ISO
39	Eprubetă, granule+ clot activator, volum sînge 6 - 8 ml	Eprubeta sieroplast cu granule 5ml, 12x86 mm, 18223, Kima	Italia	Kima	Vezi invitatia	cu pereţi transparenţi (din poliester), cu etichetă, capac culoare albă, 50 unit în stativ	CE,ISO
40	Eprubetă cu gel clot activator, volum de sînge 5-6 ml	Eprubeta serogel 5ml, 12x86 mm, 18279, Kima	Italia	KIma	Vezi invitatia	cu etichetă , capac , 50 unităţi în stativ	CE,ISO
41	Minieprubete pentru coagulometrul Helena C-4	Minieprubete pentru coagulometrul Helena C-4	MB	Helena	Vezi invitatia	din poliester, duble, diametrul intern al părţii înguste -4,0 mm	CE,ISO
42	Eprubeta borosilicata	Eprubeta p-u Stat-Fax, 250 buc, 901275,	Spania	Deltalab	Vezi invitatia	12x75 mm	CE,ISO
43	Eprubetă pentru colectarea sângelui cu citrat de sodiu pentru coagulogramă, volum 3,0 ml , cu capac, etichetă, 50	Eprubeta cu citrat Na,3ml, p-u determ. hemostazei (18608)	Italia	Kima	Vezi invitatia	pentru colectarea sângelui pentru coagulogramă, cu capac, etichetă, 50 unit în stativ	CE,ISO
44	Eprubetă K3 EDTA, volum sînge 2,5 ml, cu etichetă, capac, 50 unit în stativ	Eprubeta cu KEDTA, 2.5 ml, 12x56 mm, PP, 2100	Italia	Aptaca	Vezi invitatia	cu etichetă, capac, 50 unit în stativ	CE,ISO
45	Eprubetă K3 EDTA, volum sînge 6-8 ml	Eprubeta cu KEDTA, 5 ml, 12x86 mm, PP, 2104	Italia	Aptaca	Vezi invitatia	cu etichetă, capac, 50 unit în stativ	CE,ISO
46	Container din polipropilen cu capac filetat, volum 200 ml pentru urină	Container din polipropilen cu capac filetat, volum 200 ml pentru urină,231193	Italia	Kima	Vezi invitatia	din polipropilen cu capac filetat	CE,ISO
47	Container din polipropilen cu capac filetat, 100 ml, pentru spută	Container din polipropilen cu capac filetat, 120 ml, 21203	Italia	Aptaca	Vezi invitatia	din polipropilen cu capac filetat	CE,ISO
48	Container 25 ml,pentru mase fecale	Container p-u mase fecale cu lopatica, 25 ml, PS, 2588/SG	Italia	Aptaca	Vezi invitatia	din polisteren, capac filetat cu lopăţică, etichetă	CE,ISO
49	Container(culoarea galbena),1,5L	Container p-u deseuri 1.5 l, 7015	Italia	Aptaca	Vezi invitatia	pentru păstrare în siguranţă, marcaj cu vopsea direct pe container, fara etichete adezive, polietilen	CE,ISO
50	Container(culoarea galbena),0,6 L	Container p-u deseuri 0.6l, 7006	Italia	Aptaca	Vezi invitatia	pentru păstrare în siguranţă, marcaj cu vopsea direct pe container, fara etichete adezive, polietilen	CE,ISO

51	Container(culoarea galbena),20 L	Container p-u deseuri cu volum de 20 litri 240021	Spania	Deltalab	Vezi invitatia	pentru păstrare în siguranță, marcaj cu vopsea direct pe container, fara etichete adezive, polietilen	CE,ISO
52	Container	Container cu virfuri 0-200 mkl, 1000 uni, 182605	Italia	Kima	vezi invitatia	Cu vîrf galben universale tip Gilson pentru pipetă automată , 0-200 mkl , cu 5 subdiviziuni a cîte 200 un., ambalate cîte 1000 unit.	CE,ISO
53	Vîrf galben universal tip Gilson,volum 0-200 mkl, 0-200mkl	Vîrf galben universal tip Gilson pentru pipetă automată, 0-200mkl	Italia	Kima	Vezi invitatia	din polipropilen, autoclavabil, cu nervurile externe de înălțime joasă și uniformă, pentru pipetă automată cu 8 canale, ambalate de la producator cîte 1000 buc.	CE,ISO
54	Vîrf albastru tip Gilson ,volum 200-1000 mkl	Vîrf albastru tip Gilson ,volum 200-1000 mkl	Italia	Kima	Vezi invitatia	din polipropilen, autoclavabil, pentru pipetă automată, ambalate cîte 1000 buc.	CE,ISO
55	Virf alb tip Finnipipette ,volum 1-5 ml,	Virf alb tip Finnipipette pentru pipetă automată 1-5 ml,	Italia	Aptaca	Vezi invitatia	din polipropilen, autoclavabil, pentru pipetă automată , ambalate cîte 1000 buc.	CE,ISO
56	Scarificator-lanceta	Lanceta sterila, 1000unit	Ucraina	Spetosnastca	vezi invitatia	din inox, cu adancitura in cehtru, lanceta centrala, lungime scarificaror: ≥ 36 mm, lungime lanceta: 3,3 mm, latime scarificator: 5 mm, corpul scarificatorului cu capetele ascutite taiate, steril, ambalat individual, pentru recoltarea probelor hematologice	Cert.de calit
57	Stativ Pancenco	Stativ Pancenco	Rusia	Minimed	Vezi invitatia	Stativ Pancenco	CE,ISO
58	Lampă halogen displei/optic, 10W x G4 x 6V, pentru analizatorul biochimic	Lampă halogen displei/optic, 10W x G4 x 6V, pentru analizatorul biochimic	SUA	Awarenes	Vezi invitatia	pentru analizatorul biochimic Stat Fax 3300 , CE	CE,ISO
59	Pompă	Pompă pentru analizatorul hematologic ERMA PCE-210,sset 3 bucati	Japonia	Erma	Vezi invitatia	pentru analizatorul hematologic ERMA PCE-210 set din 3 un.	CE,ISO
61	Stativ 20 locuri	Stativ din propilen 20 locuri ,culoarea albă	Rusia	Minimed	Vezi invitatia	din polipropilen, culoare alba	Cert.de calit
62	Stativ 40 locuri	Stativ din propilen 40 locuri ,culoarea albă	Rusia	Minimed	Vezi invitatia	din polipropilen, culoare alba	Cert.de calit
63	Hârtie termică, lăţimea 110 mm	Hârtie termică, lăţimea 110 mm, p/u analizatorul Stat Fax	SUA	Awarenes	Vezi invitatia	p/u analizatorul Stat Fax	CE,ISO
64	Hârtie termică, lăţimea 56 mm	Hârtie termică, lăţimea 56 mm, p/u analizatorul hematologic	Japonia	Erma	Vezi invitatia	p/u analizatorul hematologic	CE,ISO
65	Hirtie de filtru	Hirtie de filtru	Rusia	Minimed	Vezi invitatia		Cert.de calit
66	Marker pe sticlă	Marker pe sticlă	Italia	Aptaca	Vezi invitatia	pe sticlă, vîrf subțire, culoare neagra sau albastra	Cert.de calit
67	Indicator de sterilizare, ИКВС-180/60	Indicator de sterilizare, ИКВС-180/60, autoadezive, registru de evidenţă a sterilizării	Rusia	Vinar	Vezi invitatia	autoadezive, registru de evidenţă a sterilizării , amb.1000 unit, registru	Cert.de calit
68	Dozator de lichide	Dozator automat 1-5-50 mkl/4640092	Rusia	Termofisher	Vezi invitatia	Cu volum variabil 5- 50 mcl.Posibilitate de autoclavare totala, detasator pentru virfuri, marcare colorata, sa dispuna de numar incorporat de la producator, precizie ±0.15 - ±0,30 mcl; CV % 2,5-0,3; pasul 0,5 mcl. Certificat de calitate de la producător, certificat de verificare metrologică.	ISO

69	Dozator de lichide	Dozator automat 1-10-100 mcl/4642072	Rusia	Termofisher	Vezi invitatia	Cu volum variabil 10-100 mcl. Posibilitate de autoclavare totala, detasator pentru virfuri, marcare colorata, sa dispuna de numar incorporat de la producator, precizie ±0,30 - ±0,80 mcl; CV % 1,0-0,2; pasul 1,0 mcl. Certificat de calitate de la producător, certificat de verificare metrologică.	ISO
70	Dozator de lichide	Dozator automat 1-100-1000 mkl/4642092	Rusia	Termofisher	Vezi invitatia	Cu volum variabil 100-1000 mcl. Posibilitate de autoclavare totala, detasator pentru virfuri, marcare colorata, sa dispuna de numar incorporat de la producator, precizie ±1,0 - ±6,0 mcl; CV % 0,6-0,2; pasul 5,0 mcl. Certificat de calitate de la producător, certificat de verificare metrologică.	ISO
71	Dozator de lichide	Dozator automat 8-30-300 mkl,4662032	Rusia	Termofisher	Vezi invitatia	Cu volum variabil 30-300 mcl. Posibilitate de autoclavare totala, detasator pentru virfuri, marcare colorata, sa dispuna de numar incorporat de la producator, precizie ±1,5 - ±3,0 mcl; CV % 2,0-0,3; pasul 1,0 mcl. Certificat de calitate de la producător, certificat de verificare metrologică.	ISO

Semnat:_____ Numele, prenumele: Ceaicovschi Tudor În calitate de: Director General

Ofertantul: „GBG-MLD" SRL Adresa: mun. Chişinău, str. Tighina, 65, of. 607

Anexa nr.1
la Ordinul
nr.177 din 09 octombrie 2018
Ministerul Finanțelor

Formularul standard al Documentului Unic de Achiziții European

Documentul Unic de Achiziții European, în continuare DUAE este o declarație pe proprie răspundere care prezintă dovezi preliminare și înlocuiește certificatele eliberate de autoritățile publice sau de părți terțe. El este disponibil în limba de stat și engleză și este utilizat ca dovadă preliminară a îndeplinirii condițiilor necesare în cadrul procedurilor de achiziții publice în Republica Moldova. Datorită DUAE, ofertanții nu mai trebuie să furnizeze probe documentare complete și în formate diferite, astfel cum se utilizau anterior în procedurile de achiziții publice, ceea ce reprezintă o simplificare semnificativă a accesului la oportunitățile de ofertare transfrontaliere. Începând din octombrie 2018, DUAE va fi disponibil exclusiv în formă electronică. Ministerul Finanțelor pune la dispoziție serviciu web gratuit pentru cumpărători, ofertanți și alte părți interesate de completare DUAE în format electronic. Formularul online poate fi completat, imprimat și apoi trimis cumpărătorului împreună cu restul ofertei. Dacă procedura se desfășoară electronic, DUAE poate fi exportat, stocat și depus în format electronic. Un DUAE depus în cadrul unei proceduri de achiziții publice anterioare poate fi reutilizat, cu condiția că informațiile să rămână corecte. Ofertanții pot fi excluși din procedura de achiziții publice sau pot fi urmăriți în justiție dacă informațiile din DUAE sunt false, nedivulgate sau nu pot fi susținute prin documente justificative.

Partea I – Informații privind procedura de achiziții publice și autoritatea contractantă sau entitatea contractantă

Partea I a formularului DUAE se completează online doar de către autoritatea contractantă sau entitatea contractantă și include următoarele informații:

A.	**Informații despre publicare**	
	Numărul anunțului/invitației publicată în BAP, și după caz numărul anunțului în J.O	
B.	**Identitatea achizitorului**	
	Denumirea oficială	IMSP Spitalul Raional Soroca „A.Prisacari" Or.Soroca str.M.Kogălniceanu 1 Republica Moldova C/F 1003607150209
	Țara	
	Număr unic de identificare a autorității	
C.	**Informații privind procedura de achiziții publice**	
	Tipul procedurii	LP 21006336 achizitionarea reactivie pentru investigatii imunologice și consumabile pentru laborator
	Numărul unic de identificare al procedurii de achiziție	
	Data deschiderii ofertelor	
	Denumirea obiectului de achiziții	
	Scurtă descrie	

Partea II – Informații referitoare la operatorul economic

Partea II a formularului DUAE se completează online doar de către operatorii economici și include următoarele informații.

A.	**Informații referitoare la operatorul economic**	
	Denumire	„GBG-MLD" SRL
	Adresa juridică:	str. Tighina 65, of.607
	Cod poștal	MD-2001
	Oraș	Chisinau
	Țara	Republica Moldova
	Adresa web	www.gbg.md
	e-mail	office@gbg.md
	Telefon	022-54-91-20
	Persoana sau persoanele de contact	Tudor Ceaicovschi
	Număr unic de identificare (IDNO/IDNP), după caz	1003600117582
	Numărul cod TVA – dacă este cazul	0205086
	Statutul juridic al operatorului economic	S.R.L.
	Numele fondatorilor	Tudor Ceaicovschi -98% Vera Coleva – 2%

	Operatorul economic este: întreprindere mică, întreprindere mijlocie	☐Da ☒ Nu ☒Da ☐☐Nu
	Numai în cazul în care achiziția este rezervată: operatorul economic este un atelier protejat sau o "întreprindere socială„ sau va asigura executarea contractului în contextul programelor de angajare protejată? - care este procentul corespunzător de lucrători cu dizabilități sau defavorizați? - Dacă este necesar, vă rugăm să specificați cărei sau căror categorii de lucrători cu dizabilități sau defavorizați le aparțin angajații în cauză?	☐Da ☒ Nu
	Dacă este cazul, activitatea antreprenorială a operatorului economic este înregistrată sau deține o certificare echivalentă în cadrul unui sistem național privind activitățile economice pe care le prestează? - Vă rugăm să furnizați actele de constituire, dacă este cazul: - Dacă actele de constituire sau de certificare sunt disponibile în format electronic, vă rugăm să precizați: - Vă rugăm să furnizați autorizațiile pe care se bazează activitățile comerciale, dacă este cazul: - Înregistrarea sau certificarea acoperă toate criteriile de selecție impuse?	☒ Da ☐☐Nu ☒ Da ☐☐Nu ☒ Da ☐☐Nu ☒ Da ☐☐Nu ☒ Da ☐☐Nu
	Vă rugăm să completați informațiile lipsă în partea II secțiunea A,B,C sau D, după caz, NUMAI dacă se solicită acest lucru în anunțul sau în documentele achiziției relevante	
	Operatorul economic va fi în măsură să furnizeze un certificat cu privire la plata contribuțiilor la asigurările sociale și plata impozitelor sau să furnizeze informații care să îi permită autorității contractante sau entității contractante să obțină acest certificat direct prin accesarea unei baze de date naționale în orice stat, disponibilă în mod gratuit? - Dacă documentele relevante sunt disponibile în format electronic, vă rugăm să precizați:	☒Da ☐☐Nu
	Operatorul economic participă la procedura de achiziții publice împreună cu alții?	☐Da ☒ Nu
	Vă rugăm să vă asigurați că celelalte părți în cauză prezintă un formular DUAE separat.	
	Vă rugăm să precizați rolul operatorului economic în cadrul grupului (lider, responsabil cu îndeplinirea unor sarcini specifice, etc):	
	Vă rugăm să îi identificați pe ceilalți operatori economici care mai participă la procedura de achiziții publice:	
	Dacă este cazul, denumirea grupului participant:	
	Dacă este cazul, se indică lotul (loturile) pentru care operatorul economic dorește să depună oferte:	
B.	**Informații privind reprezentanții operatorului economic**	
	Dacă este cazul, vă rugăm să indicați numele și adresa (adresele) persoanei (persoanelor) împuternicită (împuternicite) să îl reprezinte pe operatorul economic în scopurile acestei proceduri de achiziții publice:	
	Prenume	Tudor
	Nume	Ceaicovschi
	Data nașterii	04.11.1966
	Locul nașterii	Nisporeni
	Strada și numărul	Basarabilor 17
	Cod poștal	MD-
	Oraș	Chisinau
	Țară	Republica Moldova
	--	
	e-mail	office@gbg.md
	Telefon	022 54-91-20
	Funcție / acționând în calitate de	Director general
	Dacă este cazul, vă rugăm să furnizați informații detaliate privind reprezentarea (formele, amploarea, scopul acesteia...)	
C.	**Informații privind utilizarea capacităților altor entități**	
	Operatorul economic utilizează capacitățile altor entități pentru a satisface criteriile de selecție prevăzute în partea IV, precum și (dacă este cazul) criteriile și regulile menționate în partea V de mai jos?	☐Da ☒ Nu
	Vă rugăm să prezentați un formular DUAE separat care să cuprindă informațiile solicitate în secțiunile A și B din această parte și din partea III pentru fiecare dintre entitățile în cauză, completat și semnat în mod corespunzător de entitățile în cauză. Vă atragem atenția asupra faptului că trebuie incluși, de asemenea, tehnicienii sau organismele tehnice implicate, indiferent dacă fac sau nu parte din întreprinderea operatorului economic, în special cei care răspund de controlul calității și, în cazul contractelor de achiziții publice de lucrări, tehnicienii sau organismele tehnice la care poate face apel operatorul economic în vederea executării lucrărilor.în măsura în care este relevant pentru capacitatea (capacitățile) specifică (specifice) utilizată (utilizate) de operatorul economic, vă rugăm să includeți informațiile prevăzute în părțile IV și V pentru fiecare dintre entitățile în cauză.	

D.	**Informații privind subcontractanții pe ale căror capacități operatorul economic nu se bazează**	**Răspuns**
	Secțiunea se completează numai în cazul în care această informație este solicitată în mod explicit de către autoritatea contractantă sau entitatea contractantă.	
	Operatorul economic intenționează să subcontracteze vreo parte din contract unor terți?	☐Da ☒ Nu
	Dacă da și în măsura în care se cunoaște, vă rugăm să enumerați subcontractanții propuși.	
	Dacă autoritatea contractantă sau entitatea contractantă solicită în mod explicit aceste informații, în plus față de informațiile din partea I, vă rugăm să furnizați informațiile solicitate în secțiunile A și B din această parte și din partea III pentru fiecare dintre subcontractanții (categoriile de subcontractanți) în cauză.	

Partea III – Motive de excludere

Partea III a formularului DUAE se completează online de către autoritatea contractantă, entitatea contractantă și operatorii economici.

A.	**Motive referitoare la condamnările penale**	
	Art.18 din Legea nr.131 din 03.07.2015 stabilește următoarele motive de excludere. *Al. (1) Autoritatea contractantă are obligația de a exclude din procedura de atribuire a contractului de achiziții publice orice ofertant sau candidat despre care are cunoștință că, în ultimii 5 ani, a fost condamnat, prin hotărârea definitivă a unei instanțe judecătorești, pentru participare la activități ale unei organizații sau grupări criminale, pentru corupție, pentru fraudă și/sau pentru spălare de bani, pentru infracțiuni de terorism sau infracțiuni legate de activități teroriste, finanțarea terorismului, exploatarea prin muncă a copiilor și alte forme de trafic de persoane.* *Al. (1[1]) Obligația de excludere a ofertantului / candidatului se aplică și în cazul în care persoana condamnată printr-o hotărâre definitivă a unei instanțe de judecată pentru infracțiunile prevăzute la alin.1 este membru al organismului de administrare, de conducere sau de control în cadrul acestuia.* *Al. (6) Orice ofertant/candidat care se află în una din situațiile menționate la art.18 alin. (1) și (2) din legea 131/03.07.2018 privind achizițiile publice, furnizează dovezi care să arate că măsurile luate de el sânt suficiente pentru a demonstra fiabilitatea sa, în pofida existenței unui motiv de excludere. Dacă autoritatea contractantă consideră astfel de dovezi suficiente, ofertantul/candidatul în cauză nu este exclus de la procedura de achiziție publică.* *Al. (7) În sensul alin. (6), ofertantul/candidatul dovedește că a plătit sau s-a angajat să plătească o compensație în ceea ce privește eventualele prejudicii cauzate prin infracțiune sau prin abatere, că a clarificat complet faptele și împrejurările cooperând activ cu autoritățile abilitate să investigheze cazul și că a întreprins măsuri concrete la nivel tehnic, organizațional și în materie de personal, adecvate pentru a preveni orice noi infracțiuni sau abateri.* *Al. (8) Măsurile întreprinse de către ofertant/candidat în sensul alin. (7) sânt evaluate ținând seama de gravitatea și circumstanțele particulare ale infracțiunii sau ale abaterii. În cazul în care consideră că măsurile întreprinse sânt insuficiente, autoritatea contractantă informează ofertantul/candidatul despre motivele excluderii.* *Al. (9) Un ofertant/candidat care a fost exclus prin hotărâre definitivă a unei instanțe de judecată de la participarea la procedurile de achiziții publice nu are dreptul să facă uz de posibilitatea prevăzută la alin. (6)–(8).*	
	Participare la o organizație criminală *Text*	☐Da ☒ Nu
	Corupție *Text*	☐Da ☒ Nu
	Fraude *Text*	☐Da ☒ Nu
	Infracțiuni teroriste sau infracțiuni legate de activitățile teroriste *Text*	☐Da ☒ Nu
	Spălare de bani sau finanțarea terorismului *Text*	☐Da ☒ Nu
	Exploatarea prin muncă a copiilor și alte forme de trafic de persoane *Text*	☐Da ☒ Nu
B.	**Motive legate de plata impozitelor sau a contribuțiilor la asigurările sociale**	
	Art.18 din Legea nr.131 din 03.07.2015 stabilește următoarele motive de excludere. *Al. (2) Autoritatea contractantă are obligația de a exclude din procedura de atribuire a contractului de achiziții publice orice ofertant sau candidat care se află în oricare dintre următoarele situații:* *Lit. (b) nu și-a îndeplinit obligațiile de plată a impozitelor, taxelor și contribuțiilor de asigurări sociale în conformitate cu prevederile legale în vigoare în Republica Moldova sau în țara în care este stabilit.* *Al. (2[2]) Prin derogare de la alin.2 lit. b), ofertantul/candidatul nu este exclus din procedura de atribuire dacă beneficiază, în condițiile legii, de eșalonarea obligațiilor de plată a impozitelor, taxelor și contribuțiilor de asigurări sociale ori de alte facilități în vederea plății acestora, inclusiv a majorărilor de întârziere (penalităților) și/sau a amenzilor.*	
	Plata impozitelor text	☐Da ☒ Nu
	Această încălcare a obligațiilor a fost stabilită prin alte mijloace decât o hotărâre judecătorească sau administrativă?	☐Da ☒ Nu
	În cazul în care această încălcare a obligațiilor a fost stabilită printr-o hotărâre judecătorească sau administrativă, această decizie este definitivă și obligatorie? *Vă rugăm să precizați data condamnării.În cazul unei condamnări, durată perioadei de excludere, în măsura în care aceasta este stabilită direct în condamnare.Descrieți ce mijloace au fost utilizate*	☐Da ☒ Nu
	Operatorul economic și-a îndeplinit obligațiile plătind impozitele sau contribuțiile la asigurările sociale datorate sau încheind un aranjament cu caracter obligatoriu în vederea plății acestora, inclusiv, după caz, a eventualelor dobânzi acumulate sau a amenzilor?*Vă rugăm să le descrieți.Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?*	☐Da ☒ Nu ☐Da ☒ Nu
	Plata asigurărilor sociale	
	Operatorul economic și-a încălcat obligațiile cu privire la plata contribuțiilor la asigurările sociale atât pe teritoriul Republicii Moldova, cât și în alte state?	Nu
	Această încălcare a obligațiilor a fost stabilită prin alte mijloace decât o hotărâre judecătorească sau administrativă?	☐Da ☒ Nu
	În cazul în care această încălcare a obligațiilor a fost stabilită printr-o hotărâre judecătorească sau administrativă, această decizie este definitivă și obligatorie? *Vă rugăm să precizați data condamnării.În cazul unei condamnări, durată perioadei de excludere, în măsura în care aceasta este stabilită direct în condamnare.Descrieți ce mijloace au fost utilizate*	☐Da ☒ Nu
	Operatorul economic și-a îndeplinit obligațiile plătind impozitele sau contribuțiile la asigurările sociale datorate sau încheind un aranjament cu caracter obligatoriu în vederea plății acestora, inclusiv, după caz, a eventualelor dobânzi acumulate sau a amenzilor? *Vă rugăm să le descrieți.Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?*	☐Da ☒ Nu
	Includerea în lista de interdicție a operatorilor economici.	
	Este operatorul economic înscris în lista de interdicție a operatorilor economici în conformitate cu Articolul 18 al. e) din Legea nr.131 din 03.07.2015 privind achizițiile publice.	☐Da ☒ Nu
	Motive legate de insolvență, conflicte de interese sau abateri profesionale	
	Art.18 al. 2 din Legea nr.131 din 03.07.2015 stabilește următoarele motive de excludere. *lit. (a) se află în proces de insolvabilitate ca urmare a hotărârii judecătorești;* *lit. (c) a fost condamnat, în ultimii 3 ani, prin hotărârea definitivă a unei instanțe judecătorești, pentru o faptă care a adus atingere eticii profesionale sau pentru comiterea unei greșeli în materie profesională;* *lit. (d) a prezentat informații false sau nu a prezentat informațiile solicitate de către autoritatea contractantă în scopul demonstrării îndeplinirii criteriilor de calificare și selecție;* *lit. (d[1]) a încălcat obligațiile aplicabile în domeniul mediului, muncii și asigurărilor sociale, în cazul în care autoritatea contractantă demonstrează, prin orice mijloace adecvate, acest fapt;* *lit. (d[2]) se face vinovat de o abatere profesională, care îi pune la îndoială integritatea, în cazul în care autoritatea contractantă demonstrează, prin orice mijloace adecvate, acest fapt;* *lit.(d[3]) a încheiat cu alți operatori economici acorduri care vizează denaturarea concurenței, în cazul în care acest fapt se constată prin decizie a organului abilitat în acest sens;* *lit. (d[4]) se află într-o situație de conflict de interese care nu poate fi remediată în mod efectiv prin măsurile prevăzute la art. 74.*	
	În măsura cunoștințelor sale, operatorul economic și-a încălcat obligațiile în domeniul mediului ?	☐Da ☒ Nu
	Ați luat măsuri pentru a demonstra fiabilitatea dumneavoastră (autocorectare)*Vă rugăm să le descrieți*	☐Da ☐Nu
	În măsura cunoștințelor sale, operatorul economic și-a încălcat obligațiile în domeniul social?	☐Da ☒ Nu
	Ați luat măsuri pentru a demonstra fiabilitatea dumneavoastră (autocorectare)*Vă rugăm să le descrieți*	☐Da Nu
	În măsura cunoștințelor sale, operatorul economic și-a încălcat obligațiile în domeniul muncii?	☐Da ☒ Nu
	Ați luat măsuri pentru a demonstra fiabilitatea dumneavoastră (autocorectare)*Vă rugăm să le descrieți*	☐Da ☐ Nu
	Falimentul	
	Operatorul economic este în stare de faliment? *Vă rugăm să le descrieți*	☐Da ☒ Nu
	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da ☐☐Nu
	Insolvența	
	Operatorul economic este în situație de insolvență sau de lichidare?*Vă rugăm să le descrieți*	☐Da ☒ Nu
	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da ☐☐Nu
	Faliment	
	Operatorul economic se află într-o situație similară, cum ar fi falimentul, care rezultă dintr-o procedură similară din legislațiile sau reglementările naționale?*Vă rugăm să le descrieți*	☐Da ☒ Nu
	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da ☐☐Nu
	Active administrate de lichidator	
	Activele operatorului economic sunt administrate de un lichidator sau de o instanță?*Vă rugăm să le descrieți*	☐Da ☒ Nu
	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	Da ☐Nu
	Activitățile economice sunt suspendate	
	Activitățile economice ale operatorului economic sunt suspendate?*Vă rugăm să le descrieți*	Da ☒ Nu

	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.		
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da	☐☐Nu
	Acorduri cu alți operatori economici care vizează denaturarea concurenței		
	Operatorul economic a încheiat acorduri cu alți operatori economici care au ca obiect denaturarea concurenței?*Vă rugăm să le descrieți*	☐Da	☒ Nu
	Precizați motivele pentru care veți putea fi, totuși, în măsură să executați contractul. Nu este necesar să se furnizeze aceste informații în cazul în care excluderea operatorilor economici în acest caz a devenit obligatorie în temeiul legislației naționale aplicabile, fără nicio posibilitate de derogare atunci când operatorul economic este, totuși în măsură să execute contractul.		
	Ați luat măsuri pentru a demonstra fiabilitatea dumneavoastră (autocorectare)*Vă rugăm să le descrieți*	☐Da	☐ Nu
	Conflict de interese care decurge din participarea la procedura de achiziții publice.		
	Operatorul economic are cunoștință de vreun conflict de interese, astfel cum se precizează în legislația națională, anunțul relevant sau documentele achiziției, care decurge din participarea sa la procedura de achiziții publice?Vă rugăm să le descrieți	☐Da	☒ Nu
	Implicare directă sau indirectă în pregătirea acestei proceduri de achiziții publice		
	Operatorul economic sau o întreprindere care are legături cu acesta a oferit consultanță autorității contractante sau entității contractante sau a participat în orice alt mod la pregătirea procedurii de achiziții publice?Vă rugăm să le descrieți	☐Da	☒ Nu
	Încetare anticipată, daune-interese sau alte sancțiuni comparabile		
	Operatorul economic s-a aflat într-o situație în care un contract de achiziții publice anterior, un contract anterior încheiat cu o entitate contractantă sau un contract de concesiune anterior a fost realizat anticipat sau au fost impuse daune-interese sau alte sancțiuni comparabile în legătură cu respectivul contract anterior:*Vă rugăm să descrieți*	☐Da	☒ Nu
	Ați luat măsuri pentru a demonstra fiabilitatea dumneavoastră (autocorectare)*Vă rugăm să le descrieți*	☐Da	☐☐Nu
	Vinovat de interpretare eronată, nedivulgare de informații, incapacitate de a furniza documentele necesare și obținere de informații confidențiale referitoare la această procedură		
	Operatorul economic s-a aflat într-una dintre situațiile următoare: a) Nu s-a făcut grav vinovat de declarații false la furnizarea informațiilor necesare pentru verificarea absenței motivelor de excludere sau a îndeplinirii criteriilor de selecție; b) A ascuns astfel de informații; c) Nu a fost în măsură să furnizeze, fără întârziere, documentele justificative solicitate de autoritatea contractantă sau de entitatea contractantă, și d) A încercat să influențeze în mod nepermis procesul decizional al autorității contractante sau entității contractante, să obțină informații confidențiale care i-ar putea conferi avantaje necuvenite în cadrul procedurii de achiziții publice sau că a furnizat din neglijență informații false care pot avea o influență semnificativă asupra deciziilor privind excluderea, selecția și atribuirea?	☐Da	☒ Nu
	Art.18 din Legea nr.131 din 03.07.2015 prevede: *Al. (3) Autoritatea contractantă extrage informația necesară pentru constatarea existenței sau inexistenței circumstanțelor descrise la alin. (1) și (2) din bazele de date disponibile ale autorităților publice sau ale părților terțe. Dacă acest lucru nu este posibil, autoritatea contractantă are obligația de a accepta ca fiind suficient și relevant pentru demonstrarea faptului că ofertantul/candidatul nu se încadrează în niciuna dintre situațiile prevăzute la alin. (1) și (2) orice document considerat edificator, din acest punct de vedere, în țara de origine sau în țara în care ofertantul/candidatul este stabilit, cum ar fi certificate, caziere juridice sau alte documente echivalente emise de autorități competente din țara respectivă.* *Al. (4) În ceea ce privește situațiile menționate la alin. (2), în conformitate cu legislația internă a statului în care sânt stabiliți ofertanții/candidații, prevederile alin. (3) se referă la persoane fizice și persoane juridice, inclusiv, după caz, la directori de companii sau la orice persoană cu putere de reprezentare, de decizie ori de control privind ofertantul/candidatul.* *Al.(5) În cazul în care în țara de origine sau în țara în care este stabilit ofertantul/candidatul nu se emit documente de natura celor specificate la alin. (3) sau aceste documente nu vizează toate situațiile prevăzute la alin. (1) și (2), autoritatea contractantă are obligația de a accepta o declarație pe propria răspundere sau, dacă în țara respectivă nu există prevederi legale referitoare la declarația pe propria răspundere, o declarație autentică dată în fața unui notar, a unei autorități administrative sau judiciare sau a unei asociații profesionale care are competențe în acest sens.*		

Partea IV – Criteriile de selecție

Partea IV se completează online de către autoritatea contractantă, entitatea contractantă și operatorii economici și include.

A	**Capacitatea de a corespunde cerințelor**		
	Art.21 din Legea nr.131 din 03.07.2015 stabilește următoarele motive de selecție:		
	Înscrierea într-un registru profesional relevant:		
	Este înscris într-unul dintre registrele profesionale sau comerciale relevante naționale sau din statele membre UE în care este stabilit	☐Da	☒ Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da	☐Nu
	Este necesară o autorizație pentru ca operatorul economic să poată presta serviciul în cauză în țara unde este stabilit:*Vă rugăm să le descrieți*	☐Da	Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da	☐☐Nu
B	**Capacitatea economică și financiară**		
	Articolul 20 al.1 din Legea 131 din 03.07.2018 privind achizițiile publice, stabilește că, *Demonstrarea capacității economice și financiare a operatorului economic se realizează prin prezentarea unuia sau a mai multor documente relevante, cum ar fi*		
	Declarații bancare		
	Operatorul economic va fi în măsură să furnizeze declarații bancare sau, după caz, dovezi privind asigurarea riscului profesional, sau să furnizeze informații care să îi permită autorității contractante sau entității contractante să obțină aceste informații direct prin accesarea unei baze de date naționale în orice stat, disponibilă în mod gratuit?*Vă rugăm să le descrieți*	☒ Da	☐☐Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☐Da	☒ Nu
	Cifra de afaceri anuală Art. 20 din Legea 131 din 03.07.2018 privind achizițiile publice, stabilește că. *Al. (1[1]) În sensul alin. (1) lit. c), cifra de afaceri anuală minimă impusă operatorilor economici nu trebuie să depășească de două ori valoarea estimată a contractului, cu excepția cazurilor bine justificate, precum cele legate de riscurile speciale aferente naturii bunurilor, lucrărilor sau serviciilor. Autoritatea contractantă indică principalele motive pentru o astfel de cerință în documentația de atribuire. Atunci când un contract este împărțit în loturi, indicele cifrei de afaceri se aplică pentru fiecare lot individual. Cu toate acestea, autoritatea contractantă stabilește cifra de afaceri anuală minimă impusă operatorilor economici cu referire la grupuri de loturi, dacă ofertantului câștigător îi sânt atribuite mai multe loturi care trebuie executate în același timp. În cazul în care urmează să se atribuie contracte bazate pe un acord-cadru, cifra de afaceri anuală maximă se calculează în funcție de dimensiunea maximă anticipată a contractelor specifice care vor fi executate în același timp sau, dacă aceasta nu este cunoscută, pe baza valorii estimate a acordului-cadru. În cazul unor sisteme dinamice de achiziții, cifra de afaceri anuală maximă se calculează pe baza dimensiunii maxime anticipate a contractelor specifice care urmează să fie atribuite în cadrul sistemului respectiv.*		
	Cifra de afaceri anuală pentru numărul de exerciții financiare impus în anunțul relevant, în documentele achiziției sau în DUAE, este după cum urmează:*Se completează de către autoritatea contractantă.*Valoare	Se completează de către operatorul economic Cifră de afaceri: **126318597**	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☒ Da ☐☐Nu **www.raportare.md**	
	Cifra de afaceri medie anuală		
	Cifra de afaceri medie anuală pentru numărul de ani impus în anunțul relevant, în documentele achiziției sau în DUAE, este după cum urmează:Număr de ani 3 (trei) Valoare 102367349	An: 2015 Cifră de afaceri: 88829737 An: 2016 Cifră de afaceri: 91953712 An: 2017 Cifră de afaceri: 126318597	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională ?	☒ Da ☐☐Nu www.statistica.md www.raportare.md	
	Raport financiar		
	Operatorul economic va fi în măsură să furnizeze raportul financiar înregistrat, extrase din raportul financiar, sau să furnizeze informații care să îi permită autorității contractante sau entității contractante să obțină acest raport direct prin accesarea unei baze de date naționale în orice stat, disponibilă în mod gratuit?	☒ Da ☐☐Nu	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☒ Da ☐☐Nu www.statistica.md www.raportare.md	
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare care conțin informații privind capacitatea economică sau financiară, vă rugăm să furnizați formularele solicitate în anunțul de participare.		
	Art. 20 din Legea 131 din 03.07.2018 privind achizițiile publice, stabilește că *Al. (5) În cazul în care ofertantul/candidatul își demonstrează capacitatea economică și financiară invocând și susținerea acordată, în conformitate cu prevederile alin. (4), de către o altă persoană, acesta are obligația de a dovedi susținerea de care beneficiază prin prezentarea în formă scrisă a unui angajament ferm al persoanei respective, încheiat în formă autentică, prin care această persoană confirmă faptul că va pune la dispoziția ofertantului candidatului resursele financiare invocate. Persoana care asigură susținerea financiară trebuie să îndeplinească criteriile de selecție relevante și nu trebuie să se afle în niciuna dintre situațiile prevăzute la art. 18 alin. (1) și alin. (2) lit. a), c)–d[2]), care determină excluderea din procedura de atribuire.* *Al. (6) Atunci când ofertantul candidatul se bazează pe capacitățile altei persoane în ceea ce privește criteriile referitoare la capacitatea economică și financiară, autoritatea contractantă solicită ca ofertantul candidatul și acea persoană să fie răspunzătoare solidar pentru executarea contractului.* *Al. (7) În aceleași condiții prevăzute la alin. (4)–(6), o asociație de operatori economici are dreptul să se bazeze pe capacitățile membrilor asociației sau ale altor persoane.*		
C	**Capacitatea tehnică și/sau profesională**		
	Art.21 din Legea nr.131 din 03.07.2015 stabilește următoarele motive de selecție:		
	Operatorul economic va fi în măsură să furnizeze documentele solicitate de către autoritatea contractantă sau entitatea contractantă în anunțul de participare, care demonstrează capacitatea tehnică și/sau	☒ Da Nu	

	profesională pentru executarea viitorului contract, sau să furnizeze informații care să îi permită autorității contractante sau entității contractante să obțină aceste informații direct prin accesarea unei baze de date naționale în orice stat, disponibilă în mod gratuit?	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare care conțin informații privind capacitatea tehnică sau profesională, vă rugăm să furnizați formularele solicitate în anunțul de participare.	
	Pentru contractele de achiziție de lucrări: executarea de lucrări de tipul specificat	
	Numai pentru contractele de achiziții publice de lucrări: în perioada de referință, operatorul economic a îndeplinit următoarele lucrări de tipul specificat. Autoritățile contractante pot solicita experiența de până la cinci ani și pot accepta experiența acumulată în urmă cu peste cinci ani.	
	Descriere	
	Valoare	
	Data de începere	
	Data de încheiere	
	Beneficiari	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☐☐Nu
	Pentru contractele de achiziție de bunuri, servicii: executarea de livrări, prestări de tipul specificat	
	Numai pentru contractele de achiziții publice de bunuri și servicii: în perioada de referință, operatorul economic a efectuat următoarele livrări, prestări principale de tipul specificat în anunțul de participare. Autoritățile contractante pot solicita experiența de până la trei ani și pot accepta experiența acumulată în urmă cu peste trei ani. *Vă rugăm să le descrieți*	
	Valoare	
	Data de începere	
	Data de încheiere	
	Beneficiari	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☐☐Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare, vă rugăm să furnizați formularele solicitate în anunțul de participare.	
	Instalații tehnice și măsuri de asigurare a calității	
	Vă rugăm să furnizați detalii referitoare la tehnicieni sau organismele tehnice pe care operatorul economic le poate solicita, în special cele responsabile de controlul calității în legătură cu acest exercițiu de achiziții publice. *Vă rugăm să le descrieți*	
	vă rugăm să furnizați o declarație cu privire la sisteme de management și de trasabilitate în cadrul lanțului de aprovizionare utilizate.	☐Da ☒ Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare, vă rugăm să furnizați formularele solicitate în anunțul de participare.	
	Permiterea controalelor	
	Pentru produsele sau serviciile complexe care urmează să fie furnizate sau, în mod excepțional, pentru produsele sau serviciile necesare cu un scop anume. Operatorul economic va permite efectuarea de verificări ale capacităților de producție sau ale capacității tehnice a operatorului economic și, dacă este necesar, ale mijloacelor de studiu și de cercetare de care dispune și ale măsurilor de control al calității? Vă rugăm să rețineți că, în cazul în care operatorul economic a decis să subcontracteze o parte din contract și se bazează pe capacitățile subcontractantului pentru executarea părții respective, trebuie să completați un DUAE separat pentru astfel de subcontractanți. *Permiteți verificări*	☒ Da ☐☐Nu
	Diplome de studii și calificări profesionale	
	Următoarele calificări educaționale și profesionale sunt deținute de prestatorul de servicii sau de contractantul însuși și/sau în funcție de cerințele stabilite în anunțul de participare sau în documentele procedurii de achiziție de către personalul său de conducere. *Vă rugăm să le descrieți*	Diploame (studii superioare)
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare, vă rugăm să furnizați formularele solicitate în anunțul de participare.	
	Măsuri de management al mediului	
	Operatorul economic va putea să aplice următoarele măsuri de management de mediu atunci când execută contractul: *Vă rugăm să le descrieți*	
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu
	Numărul membrilor personalului de conducere	
	Numărul membrilor personalului de conducere ale operatorului economic din ultimii trei ani au fost după cum urmează	Anul 2015 Număr: 2 Anul 2016 Număr: 2 Anul 2017 Număr: 3
	Pentru contractele de achiziție de bunuri/servicii: eșantioane, descrieri sau fotografii, fără certificate de autenticitate	
	Pentru contractele de achiziții publice de bunuri/servicii: operatorul economic va furniza eșantioanele, descrierile sau fotografiile solicitate ale produselor/serviciilor care urmează să fie furnizate/prestate, care nu trebuie să fie însoțite de certificate de autenticitate.	☒ Da ☐☐Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare, vă rugăm să furnizați formularele solicitate în anunțul de participare.	
D	**Sisteme de asigurare a calității și standarde de management de mediu.**	
	Art. al din lege stabilește următoarele motive de selecție.	
	Certificate emise de organisme independente cu privire la sistemele sau standardele de management de mediu	☐Da ☒Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒Nu
	Dacă autoritatea contractantă sau entitatea contractantă solicită în anunțul de participare prezentarea unor formulare, vă rugăm să furnizați formularele solicitate în anunțul de participare.	

Partea V- Indicații generale pentru toate criteriile de selecție

Partea V - se completează online de către autoritatea contractantă, entitatea contractantă și operatorii economici și include.

A.	**Îndeplinirea tuturor criteriilor de selecție impuse:**	
	Operatorul economic va fi în măsură să furnizeze formularele, certificatele, avizele și alte documente indicate în anunțul de participare, sau să ofere informații care să îi permită autorității contractante sau entității contractante să obțină aceste documente, informații direct prin accesarea unei baze de date naționale în orice stat, disponibilă în mod gratuit?Termen (3 zile lucrătoare)	☒ Da ☐☐Nu
	Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu

Partea VI - Preselecția candidaților calificați pentru procedura licitației restrânse, negociere, dialog competitiv și parteneriatul pentru inovare

Partea VI se completează online de către autoritatea contractantă, entitatea contractantă și operatorii economici și include.

Operatorul economic declară că: Îndeplinește criteriile sau regulile obiective și nediscriminatorii aplicabile pentru limitarea numărului de candidați în următorul mod:	**Da**
Operatorul economic declară că: Dispune de certificate sau alte forme de documente justificative, după cum este cerut de anunțul de participare relevant:	**Da**
Aceste informații sunt disponibile gratuit pentru autorități, dintr-o bază de date națională?	☐Da ☒ Nu

Partea VII- Declarațiile finale

Operatorul economic declară că informațiile prezentate în părțile II - VI de mai sus sunt exacte și corecte și că au fost furnizate cunoscând pe deplin consecințele cazurilor grave de declarații false.

Operatorul economic declară în mod oficial că poate să furnizeze, la cerere și fără întârziere, certificatele și alte forme de documente justificative menționate, cu excepția cazului în care:

1. Autoritatea contractantă sau entitatea contractantă are posibilitatea de a obține documentele justificative în cauză direct prin accesarea unei bazei de date relevante care este disponibilă gratuit, și se consimte accesul la informațiile menționate, în cazul în care acest lucru este necesar.

Operatorul economic declară în mod oficial că este de acord ca IMSP Spitalul Raional Soroca „A.Prisacari", astfel cum este descrisă în partea I secțiunea A să obțină acces la documentele justificative privind informațiile pe care le-a furnizat în acest Document Unic de Achiziție European în scopul achiziționării reactivie pentru investigatii imunologice și consumabile pentru laborator (ocds-b3wdp1-MD-1552994122991) .

Nume: **Tudor Ceaicovschi**
Poziția: **Director general**
Data: [05-09.04.19]
Locul: Chisinau
Semnătura

Formular informativ despre ofertant (F3.3)

Data: "05-09" aprilie 2019

Licitația Nr.: 21006336 Pagina 1 din 2

A. Ofertanți individuali

	Informații generale	
1.1.	Numele juridic al ofertantului	„GBG-MLD„ SRL
1.2.	Adresa juridică a ofertantului în țara înregistrării	Mun. Chisinău, str. Tighina 65, of. 607
1.3.	Statutul juridic al ofertantului	Persoană juridică
	Proprietate	Privată
	Formă de organizare juridică	Societate cu Răspundere Limitată
	Altele	-
1.4.	Anul înregistrării ofertantului	06.01.1995
1.5.	Statutul de afaceri al ofertantului	
	Agent local/Distribuitor al producătorului străin	Distribuitor
	Intermediar	-
	Companie de antrepozit	-
	Altele	-
1.6.	Informația despre reprezentantul autorizat al ofertantului	
	Numele	Tudor Ceaicovschi
	Locul de muncă și funcția	„GBG-MLD„ SRL, Director
	Adresa	Mun. Chisinău, str. Tighina 65, of. 607
	Telefon / Fax	*022 54 73 73*
	E-mail	*office@gbg.md*
1.7.	Numărul de înregistrare pentru TVA	0205086
1.8.	Numărul de identitate al ofertantului pentru impozitul pe venit (pentru ofertanții străini)	Nu este cazul
1.9.	Ofertantul va anexa copiile următoarelor documente:	*În conformitate cu FDA3.*
	informații de calificare	

2.1.	Numărul de ani de experiență generală a ofertantului în livrări de bunuri și servicii	*24 ani*
2.2.	Numărul de ani de experiență specifică a ofertantului în livrarea/prestarea bunurilor și/sau serviciilor similare	*"Nu se aplică"*
2.3.	Valoarea monetară a livrărilor de bunuri/prestarea serviciilor similare	*"Nu se aplică"*
2.4.	Disponibilitate de resurse financiare (bani lichizi sau capital circulant, sau de resurse creditare, extras din cont bancar etc.). Enumerați și anexați copiile documentelor justificative	*"Nu se aplică"*
2.5.	Detalii privind capacitatea de producere / echipamente disponibile	*"Nu se aplică"*
	Informații financiare	
3.1.	Rapoarte financiare sau extrase din bilanțul financiar, sau declarații de profit / pierderi, sau rapoartele auditorilor pentru ultimul an de activitate. Enumerați mai jos și anexați copii: *Se anexează pentru a.2018*	
3.2.	Denumirea, adresa, numerele de telefon, telex și fax ale băncilor care pot oferi caracteristici despre ofertant în cazul contactării de către autoritatea contractantă: *Denumirea:* BC „Moldova – Agroindbank„ SA, fil. M. Eminescu *Adresa:* Mun. Chisinău, str. Tighina 49 *Telefon:* 022 54 88 49 *Fax:* 022 54 88 49	
3.3.	Informație privind litigiile în care ofertantul este sau a fost implicat:	
	Orice proces pe parcursul ultimilor 3 ani:	
	Cauza litigiului	Rezultatul sau sentința și suma implicată
	-	-
	-	-
	Procese curente, pe parcursul anului fiscal curent:	
	Cauza litigiului	Situația curentă a procesului
	-	-
	-	-

Notă: Alte cerințe și detalii pot fi adăugate de către autoritatea contractantă, după caz

-

-

-

-

Declaraţia privind conduita etică şi neimplicarea în practici frauduloase şi de corupere (F3.4)

Data: "05-09" aprilie 2019

Licitaţia Nr: 21006336

Către: IMSP Spitalul Raional Soroca

"GBG-MLD"SRL confirmă prin prezenta că:

1. Nici unul dintre angajaţii, companionii, agenţii, acţionarii, consultanţii, partenerii noştri sau rudele sau asociaţi ai lor nu este în relaţii care ar fi putut considerate ca un conflict de interese, conform prevederilor din documentele de atribuire.
2. În cazul în care vom afla despre faptul unui conflict potenţial, vom raporta imediat informaţia respectivă către autoritatea contractantă.
3. Nici unul dintre angajaţii, companionii, agenţii, acţionarii, consultanţii, partenerii noştri sau rudele sau asociaţii ai lor nu a fost angajat în practici de corupere, escrocherie, complotare, constrîngere sau alte practici anticoncurenţiale în procesul pregătirii ofertei din cadrul prezentei licitaţii, conform prevederilor din documentele de atribuire, punctul IPO10.
4. În legătură cu procedura respectivă de licitaţie şi cu orice contract care, eventual, ne va fi adjudecat ca rezultat al acesteia, nu au fost, nici nu vor fi efectuate nici un fel de plăţi către angajaţii, companionii, agenţii, acţionarii, consultanţii, partenerii noştri sau rudele lor, care sînt implicaţi în achiziţia publică, implementarea contractului şi aprobarea plăţilor contractuale în numele autorităţii contractante.

Semnat:_____

Nume: Tudor Ceaicovschi

Funcţia în cadrul companiei: director

Denumirea companiei: "GBG-MLD"SRL

L.Ş.

Declaraţie privind situaţia personală a operatorului economic (F3.5)

"GBG-MLD"SRL

Subsemnatul Tudor Ceaicovschi, reprezentant împuternicit al "GBG-MLD"SRL (denumirea operatorului economic) în calitate de ofertant/ofertant asociat declar pe propria răspundere, sub sancţiunea excluderii din procedura de achiziţie publică şi sub sancţiunile aplicabile faptei de fals în acte publice, că nu mă aflu în situaţia prevăzută la art. 18 din Legea privind achiziţiile publice nr. 131 din 03.07.2015, respectiv în ultimii 5 ani nu am fost condamnat prin hotărâre definitivă a unei instanţe judecătoreşti pentru participarea la activităţi ale unei organizaţii criminale, pentru corupţie, fraudă şi/sau spălare de bani.

Subsemnatul declar că informaţiile furnizate sunt complete şi corecte în fiecare detaliu şi înţeleg că autoritatea contractantă are dreptul de a solicita, în scopul verificării şi confirmării declaraţiilor, orice documente doveditoare de care dispun.

Subsemnatul, Tudor Ceaicovschi reprezentant împuternicit al "GBG-MLD"SRL (denumirea operatorului economic), în calitate de ofertant/ofertant asociat, la procedura de licitatie publica nr. 21006336 pentru atribuirea contractului de achiziţie publică având ca obiect achiziţionarea reactivi pentru laborator pentru anul 2019, codul CPV 33600000-6, la data de 05-09.04.2019, organizată de IMSP Spitalul Raional Soroca pentru , declar pe propria răspundere că:
nu am intrat în faliment ca urmare a hotărârii judecătoreşti;

mi-am îndeplinit obligaţiile de plată a impozitelor, taxelor şi contribuţiilor de asigurări sociale;

nu am fost condamnat, în ultimii 3 ani, prin hotărârea definitivă a unei instanţe judecătoreşti, pentru o faptă care a adus atingere eticii profesionale sau pentru comiterea unei greşeli în materie profesională;

toate informaţiile şi documentele prezentate pentru procedura de achiziţie menţionată mai sus sunt veridice şi autentice;

nu suntem incluşi în Lista de interdicţie a operatorilor economici.

Subsemnatul declar că informaţiile furnizate în scopul demonstrării îndeplinirii criteriilor de calificare şi selecţie sunt complete şi corecte în fiecare detaliu şi înţeleg ca autoritatea contractantă are dreptul de a solicita, în scopul verificării şi confirmării declaraţiilor, orice documente doveditoare de care dispun.

Înţeleg ca în cazul în care această declaraţie nu este conformă cu realitatea sunt pasibil de încălcarea prevederilor legislaţiei penale privind falsul în declaraţii.

Data completării: 05-09 aprilie 2019

Operator economic,

"GBG-MLD"SRL

Semnătura_____

L.Ş.

"26.03.19" 20_
Data primirii

DIRECȚIA GENERALĂ PENTRU STATISTICĂ
26. MAR. 2019
a MUNICIPIULUI CHIȘINĂU
Nr.

Anexa la SNC "Prezentarea situațiilor financiare" Aprobat de Ministerul Finanțelor al Republicii Moldova

SITUAȚIILE FINANCIARE

pentru perioada 01 ianuarie 2018 - 31 decembrie 2018

Entitatea **GBG-MLD SRL**
(Denumirea completa)

Sediul: **MD2001, mun. Chisinau, str. Tighina 65, RM**
Cod postal, Raionul (mun, UTA); Localitatea, strada, nr, bl.

Activitatea principala **Comert**

Forma de proprietate **PRIVATA**
Forma organizatorico-juridica **Societate cu Raspundere Limitata**
Date de contact: **Tel. (022) 54-73-73; e-mail: angels@gbg.md**
WEB_

CODURI	
Cod CUIIO	37421920
Cod IDNO	1003600117582
Cod CUATM	0130
Cod CAEM, rev.2	G4646
Cod CAEM, editia 200	51460
Cod CFP	15
Cod CFOJ	530

Numele și coordonatele al contabilului-Sef: Dl (dna) **Munteanu Angela**
Tel.: 078053310

Unitatea de masura: leu

Anexa 8

Nota informativa privind veniturile si cheltuielile clasificate dupa natura

Indicatori	Cod rd.	Perioada de gestiune	
		precedenta	curenta
1	2	3	4
Venituri din vinzari	010	126 318 597	114 222 442
Alte venituri din activitatea operational^	020	1 447 184	502 592
Venituri din alte activitati	030	1 912 269	1 248 636
Total venituri (rd.010 + rd.020 + rd.030)	040	**129 678 050**	**115 973 670**
Variatia stocurilor	050		
Costul vinzarilor marfurilor vindute	060	91 486 732	88 230 050
Cheltuieli privind stocurile	070		
Cheltuieli cu personalul privind remunerarea muncii	080	4 925 496	4 860 528
Contributii de asigurari sociale de stat obligatorii si prime de asigurare obligatorie de asistenta medicala	090	1 344 482	1 037 634
Cheltuieli cu amortizarea si deprecierea activelor imobilizate	100	782 580	914 436
Alte cheltuieli	110	6 040 046	6 641 198
Cheltuieli din alte activitati	120	1 838 664	1 213 635
Total cheltuieli (rd.050 + rd.060 + rd.070 + rd.080 + rd.090 + rd.100 + rd.110 + rd. 120)	130	**106 418 000**	**102 897 481**
Profit (pierdere) pina la impozitare (rd.040 - rd.130)	140	**23 260 050**	**13 076 189**
Cheltuieli privind impozitul pe venit	150	3 112 701	1 924 619
Profit (pierdere) net al perioadei de gestiune (rd.140 - rd.150)	160	**20 147 349**	**11 151 570**

BILANȚUL

la 31 decembrie 2018

Anexa 1

ACTIV	Cod rd.	Sold la	
		Inceputul perioadei de gestiune	Sfirsitul perioadei de gestiune
2	3	4	5
Active imobilizate			
Imobilizari necorporale	010	123 695	106 570
Imobilizari corporale in curs de executie	020		
Terenuri	030		
Mijloace fixe	040	3 011 265	4 455 283
Resurse minerale	050		
Active biologice imobilizate	060		
neafiliate	070		
Investitii financiare pe termen lung in parti afiliate	080		
Investitii imobiliare	090		
Creante pe termen lung	100		
Avansuri acordate pe termen lung	110		
Alte active imobilizate	120		
Total active imobilizate (rd.010 + rd.020 + rd.030 + rd.040 + rd.050 + rd.060 + rd.070 + rd.080 + rd.090 + rd.100 + rd.110 + rd.120)	130	**3 134 960**	**4 561 853**
Active circulante			
Materiale	140	8 453	12 720
Active biologice circulante	150		
Obiecte de mica valoare Si scurta durata	160	47 386	50 517
Productia in curs de executie Si produse	170		
Marfuri	180	22 143 505	20 425 496
Creante comerciale	190	65 493 799	59 654 200
Creante ale partilor afiliate	200		
Avansuri acordate curente	210	610 670	3 244 618
Creante ale bugetului	220	60 434	130 482
Creante ale personalului	230	1 912	
Alte creante curente	240		
Numerar in casierie si la conturi curente	250	1 001 169	2 298 556
Alte elemente de numerar	260	4 603	9 214
Investitii financiare curente in parti neafiliate	270		
Investitii financiare curente in parti afiliate	280		
Alte active circulante	290	59 769	65 904
Total active circulante (rd.140 + rd.150 + rd.160 + rd.170 + rd.180 + rd.190 + rd.200 + rd.210 + rd.220 + rd.230 + rd.240 + rd.250 + rd.260 + rd.270 + rd.280 + rd.290)	300	**89 431 700**	**85 891 707**
Total active (rd.130 + rd.300)	310	**92 566 660**	**90 453 560**

PASIV	Cod rd.	Sold la	
		Inceputul perioadei de gestiune	Sfirşitul perioadei de gestiune
2	3	4	5
Capital propriu			
Capital social şi suplimentar	320	5 400	5 400
Rezerve	330	803 868	803 868
Corectii ale rezultatelor anilor precedent	340		
Profit nerepartizat (pierdere neacoperita) al anilor precedent	350	33 964 874	33 964 874
Profit net (pierdere neta) al perioadei de gestiune	360		11 151 570
Profit utilizat al perioadei de gestiune	370		
Alte elemente de capital propriu	380		
Total capital propriu (rd.320 + rd.330 + rd.340 + rd.350 + rd.360 - rd.370 + rd.380)	390	**34 774 142**	**45 925 712**
Datorii pe termen lung			
Credite bancare pe termen lung	400		
Imprumuturi pe termen lung	410		
Datorii pe termen lung privind leasingul financiar	420		
Alte datorii pe termen lung	430		
Total datorii pe termen lung (rd.400 + rd.410 + rd.420 + rd.430)	440		
Datorii curente			
Credite bancare pe termen scurt	450		
Imprumuturi pe termen scurt	460	1 356 000	
Datorii comerciale	470	13 234 389	12 015 004
Datorii fata de partile afiliate	480		
Avansuri primite curente	490	578 815	72 088
Datorii fata de personal	500		
Datorii privind asigurarile sociale si medicale	510		
Datorii fata de buget	520	2 390 651	223 650
Venituri anticipate curente	530		
Datorii fata de proprietari	540	40 133 470	32 162 265
Finantari şi incasari cu destinatie speciala curente	550		
Provizioane curente	560		
Alte datorii curente	570	99 193	54 841
Total datorii curente (rd.450 + rd.460 + rd.470 + rd.480 + rd.490 + rd.500 + rd.510 + rd.520 + rd.530 + rd.540 + rd.550 + rd.560 + rd.570)	580	**57 792 518**	**44 527 848**
Total pasive (rd.390 + rd.440 + rd.580)	590	**92 566 660**	**90 453 560**

SITUAŢIA DE PROFIT ŞI PIERDERE

de la 01 ianuarie pina 31 decembrie 2018

Anexa 2

Indicatori	Cod rd.	Perioada de gestiune precedenta	Perioada de gestiune curenta
1	2	3	4
Venituri din vinzari	010	126 318 597	114 222 442
Costul vinzarilor	020	91 486 732	88 230 050
Profit brut (pierdere bruta) (rd.010 - rd.020)	030	34 831 865	25 992 392
Alte venituri din activitatea operationala	040	1 447 184	502 592
Cheltuieli de distribuire	050	1 393 019	1 086 195
Cheltuieli administrative	060	10 195 119	10 453 985
Alte cheltuieli din activitatea operationala	070	1 594 467	1 913 617
Rezultatul din activitatea operationala: profit (pierdere) (rd.030 + rd.040 - rd.050 - rd.060 - rd.070)	080	**23 186 444**	**13 041 187**
Rezultatul din alte activitati: profit (pierdere)	090	73 606	35 002
Profit (pierdere) pina la impozitare (rd.080 + rd.090)	100	**23 260 050**	**13 076 189**
Cheltuieli privind impozitul pe venit	110	3 112 701	1 924 619
Profit net (pierdere neta) al perioadei de gestiune (rd.100 - rd.110)	120	**20 147 349**	**11 151 570**

SITUAŢIA MODIFICARILOR CAPITALULUI PROPRIU

de la 01 ianuarie pina la 31 decembrie 2018

Anexa 3

Indicatori	Cod rd.	Sold la inceputul perioadei de gestiune	Majorari	Diminuari	Sold la sfirsitul perioadei de gestiune
2	3	4	5	6	7
Capital social şi suplimentar					
Capital social	010	5 400			5 400
Capital suplimentar	020				0
Capital nevarsat	030	()	()	()	()
Capital neinregistrat	040				
Capital retras	050	()	()	()	()
Total capital social şi suplimentar (rd.010 + rd.020 + rd.030 + rd.040 + rd.050)	060	**5 400**	**0**	**0**	**5 400**
Rezerve					
Capital de rezerva	070	801 621			801 621
Rezerve statutare	080	2 247			2 247
Alte rezerve	090				
Total rezerve (rd.070 + rd.080 + rd.090)	100	803 868	0	0	803 868
Profit nerepartizat (pierdere neacoperita)					
Corecţii ale rezultatelor anilor precedenţi	110				
Profit nerepartizat (pierdere neacoperita) al anilor precedent	120	33 964 874			33 964 874
Profit net (pierdere neta) al perioadei de gestiune	130	x	11 151 570	0	11 151 570
Profit utilizat al perioadei de gestiune	140	x	()	()	()
Rezultatul din tranzitia la noile reglementari contabile	150				
Total profit nerepartizat (pierdere neacoperita) (rd.110 + rd.120 + rd.130 + rd. 140 + rd.150)	160	33 964 874	11 151 570	0	45 116 444
Alte elemente de capital propriu, din care	170				
Diferenţe din reevaluare	171				
Subvenţii entităţilor cu proprietate publică	172				
Total capital propriu (rd.060 + rd.100 + rd.160 + rd.170)	180	34 774 142	11 151 570	0	45 925 712

Republica Moldova
mun. Chişinău, MD-2001

str. Tighina 65, of. 607
tel/fax.: (373-22) 54-91-21
tel./fax: (373-22) 54-73-73
tel: (373-22) 54-91-20

GLOBAL BIOMARKETING GROUP - MOLDOVA

Rechizitele bancare:
Cod fiscal/1003600117582
Cod TVA: /0205086
BC "Moldova-Agroindbank"SA
filiala M.Eminescu
cod: AGRNMD2X864
cod IBAN: MD14AG000000225184801542

Către grupul de lucru
LP nr.21006336 din 05-09.04.2019

NOTA INFORMATIVĂ

Prin prezenta "GBG-MLD" SRL vă aduce la cunoştinţa că toate produsele, ofertate de către compania noastră în LP nr.21006336 din 05-09.04.2019 sînt omologate şi înregistrate în Republica Moldova conform Legii nr.102 din 09.06.2017 (data întrării în vigoare:14.10.2017) cu privire la dispozitivele medicale.

Informaţia în cauză se verifică în Registrul de stat al Dispozitivelor Medicale, care poate fi accesat prin intermediul site-ului oficial al Agenţiei Medicamentului şi Dispozitivelor Medicale – www.amed.md

Cu respect,

Tudor Ceaicovschi
Director general "GBG-MLD" SRL

Data: **05-09.04.19**

Anexa nr.7 la Instrucţiunea
aprobată prin ordinul IFPS
nr. 400 din 14 martie 2014

CC 04 AE

CERTIFICAT
privind lipsa sau existenţa restanţelor faţă de bugetul public naţional

Nr. / № A1914784/6332 **din** / от 01.04.2019

1. Destinatar / Получатель

Pentru participare la proceduri de achizitii publice

2. Date despre contribuabil / Информация о налогоплательщике

Denumirea / Наименование	**Codul fiscal / Numărul de identificare** / Фискальный код / Идентификационный номер
GBG-MLD S.R.L.	1003600117582
Adresa sediului de bază (strada, numărul) / Адрес основного месторасположения (улица, номер)	**Codul - Denumirea localităţii** / Код - Наименование населенного пункта
Tighina nr.65	0130-SEC.CENTRU

3. Atestarea lipsei sau existenţei restanţelor conform datelor Sistemului Informaţional Automatizat / Подтверждение отсутствия или наличия недоимки согласно данных Автоматизированной Информационной Системы

La data emiterii prezentului certificat restanţa la bugetul public naţional constituie/ На дату выдачи данной справки недоимка перед национальным публичным бюджетом составляет: **0,00** lei/лей.

4. Valabil pînă la / Действителен до 16.04.2019

5. Autentificarea organului fiscal / Подтверждение налогового органа

Director adjunct interimar al SFS — Ludmila BOTNARI

Funcţia/Должность — Semnătura/Подпись — Numele şi prenumele/Фамилия и имя

L.Ş/ М.П.

Executor: T. Strajescu-Lungu; Tel: 82-34-33
Numele şi prenumele/Фамилия и имя

Este extras din Sistemul Informaţional al SFS SIA „Contul curent al contribuabilului"// 01.04.2019 ora 15:41:48
cu aplicarea prevederilor pct. 82-83 Ordin IFPS nr.400 din 14.03.2014 (Monitorul Oficial 72-77/399, 28.03.2014)

NOTA (0,00)

REPUBLICA MOLDOVA

CERTIFICAT DE ÎNREGISTRARE

PRIN PREZENTUL SE CERTIFICĂ , CĂ ÎNTREPRINDEREA **MIXTĂ "GBG-MLD" S.R.L.** ESTE ÎNREGISTRATĂ LA CAMERA ÎNREGISTRĂRII DE STAT

Numărul de indentificare de stat - codul fiscal

1003600117582

Data înregistrării **06.01.1995**

Data eliberării **21.12.2004**

Iovu Galina, registrator de stat
Funcţia, numele, prenumele persoanei care a eliberat certificatul

semnătura

CAMERA ÎNREGISTRĂRII DE STAT 103

MD 0006733

„Secret comercial, confidenţial"

MAIB
Moldova Agroindbank

Dlui Tudor Ceaicovschi,
Administrator al S.R.L. „GBG-MLD"
MD-2001, mun. Chişinău, str. Tighina, 65,

C180/E00214
05 martie 2019

CERTIFICAT

Prin prezenta, BC "Moldova-Agroindbank" S.A. confirmă că „GBG-MLD" S.R.L. (IDNO 1003600117582) dispune de următoarele conturile curente:

Numărul contului curent, cod IBAN	**Valuta**
MD14AG0000000225184801542	MDL
MD64AG0000000225144807542	EUR
MD81AG0000000022511677935	CHF
MD70AG0000000022511393244	UAH
MD17AG0000000225114804542	RUB
MD62AG0000000225194802542	USD
MD39AG0000000022513059583	GBP
MD81AG0000000022582080147	MDL

Certificatul este eliberat pentru a fi prezentat la destinaţie.

Cu respect,

Victor Iuraş
Vicepreşedinte al Comitetului de Conducere
al BC"Moldova-Agroindbank"S.A.

Ex.: Ivan Buga
Tel.: 022-30-33-64

AGENŢIA SERVICII PUBLICE

Departamentul înregistrare şi licenţiere a unităţilor de drept

EXTRAS

din Registrul de stat al persoanelor juridice

Nr. **399048** data **03.12.2018**

Denumirea completă: **Societatea cu Răspundere Limitată "GBG-MLD"**
Denumirea prescurtată: **"GBG-MLD" S.R.L.**
Forma juridică de organizare: **Societate cu răspundere limitată,**
Numărul de identificare de stat şi codul fiscal (IDNO): **1003600117582**
Data înregistrării de stat: **06.01.1995**
Modul de constituire: **nou creată.**
Sediul: **MD-2001, str. Tighina, 65, mun. Chişinău, Republica Moldova.**
Obiectul principal de activitate:
1. Comerţul cu ridicata al produselor farmaceutice
2. Cercetare şi dezvoltare în ştiinţe fizice şi naturale
3. Comerţul cu amănuntul al produselor farmaceutice şi de parfumerie
4. Producţia echipamentului de control pentru procesele industriale
5. Practica medicală
6. Fabricarea utilajului medical şi chirurgical şi a dispozitivelor ortopedice
7. Producţia de aparatura şi instrumente de măsură, verificare şi control
8. Transporturi rutiere de mărfuri

Capitalul social: **5400** lei,

Administrator: **CEAICOVSCHI TUDOR, IDNP 0971601546960**

Asociaţii:
1. COLEVA VERA, IDNP 2000048101473, cota 108 lei, ce constituie 2%
2. CEAICOVSCHI TUDOR, IDNP 0971601546960, cota 5292 lei, ce constituie 98%
Beneficiar efectiv:
2.1.CEAICOVSCHI TUDOR, IDNP 0971601546960, cota - 98%

Prezentul extras este eliberat în temeiul art.34 al Legii nr.220-XVI din 19 octombrie 2007 privind înregistrarea de stat a persoanelor juridice şi a întreprinzătorilor individuali şi confirmă datele din Registrul de stat la data de: **03.12.2018**.

Registrator **Lozovanu Constantin**

EB 0249571

REPUBLICA MOLDOVA

LICENȚĂ

Seria A MMII Nr. 048120

Denumirea autorității de licențiere	**Camera de Licențiere**
Denumirea, forma juridică de organizare, sediul (adresa juridică) a titularului de licență	**Societatea cu Răspundere Limitată „GBG-MLD"** mun.Chișinău, str. Tighina, 65
Data și numărul certificatului de înregistrare de stat a titularului de licență	02.03.2015
Numărul de înregistrare a întreprinderii sau IDNO	1003600117582
Codul fiscal	
Genul de activitate, integral sau parțial, pentru a cărui desfășurare se eliberează licența	*** Importul, comercializarea dispozitivelor medicale și opticii ***
Data eliberării licenței	26 mai 2005
Valabilă pînă la Prelungită pînă la: 26.05.2015 Prelungită pînă la: 25.05.2020	26 mai 2010

Semnătura conducătorului autorității de licențiere

Director al Camerei de Licențiere

Valentin GUZNAC

Notă: Licența este valabilă numai cu anexa autentificată de autoritatea de licențiere, în care sînt indicate condițiile de licențiere pentru genul de activitate specificat în licență.

ANEXĂ LA LICENȚA

Seria A MMII Nr. 048120

Titular de licență Societatea cu Răspundere Limitată „GBG-MLD"

Titularul de licență este obligat să respecte următoarele condiții de licențiere pentru desfășurarea activității:

*** Importul, comercializarea dispozitivelor medicale și opticii ***

Reperfectată: 1)08.05.2014,2)10.03.2015

1. Desfășurarea activității licențiate în conformitate cu cadrul legislativ și normativ.
2. Asigurarea efectuării controlului metrologic legal a mijloacelor de măsurare, utilizate în domeniul sănătății și siguranței populației.
3. Indicarea la loc vizibil al prețurilor la mărfuri și a tarifelor pentru servicii într-o formă clară.
4. Deținerea autorizației sanitare, antiincendiare, ecologice și de securitate a muncii.
5. Dispunerea de spații cu titlu de proprietate sau de locațiune pentru desfășurarea activității licențiate.
6. Dispunerea de specialiști în domeniu (ingineri, bioingineri).

Activitatea licențiată se desfașoară pe adresa:
mun. Chișinău, str. Tighina, 65
Licența este valabilă cu următorul specialist - Ceaicovschi Tudor

L.Ș.

Notă: Anexa și copiile ei sînt valabile numai cu ștampila originală a autorității de licențiere.

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

ENAC CERTIFICACIÓN Nº 39/C-SG055

LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS
THE AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

otorga el certificado número
grants the certificate no,

2013 11 0039 EN

según la norma
in accordance with the standard

UNE-EN ISO 13485:2018

(EN ISO 13485: 2016 & ISO 13485: 2016)

Productos Sanitarios: Sistemas de Gestión de Calidad – Requisitos para fines reglamentarios
Medical devices – Quality management systems - Requirements for regulatory purposes

a la empresa
to the company

Dia.Pro Diagnostic Bioprobes S.r.l.

Sede social y de fabricación/ *Headquarters and manufacturing facility*
Via G. Carducci, 27-20099-Sesto San Giovanni-Milano-Italy

Para las siguientes actividades / *For the following activities:*

Diseño, desarrollo y producción de productos sanitarios para diagnóstico *in vitro:*

Reactivos y productos reactivos, calibradores y materiales de control para Inmunología Infecciosa y Técnicas de Biología Molecular

Design, development and manufacturing of "in vitro" medical devices:
Reagents, reagent products, calibrators and control materials for infectious immunology and molecular biology techniques.

Modificaciones de alcance: N/A
Fecha de validez/ *Date of validity:* **Desde/** *From:* **18-12-2018** **Hasta/***To:* **17-12-2021**
Certificación inicial/ *Initial certification date:* **27-11-2013**
Renovación / *Renewal of certification date:* **18-12-2018**

Madrid, 18 de diciembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 18/12/2018
Localizador: DWRVYADC92
Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel.: (+34) 902.101.322 /(+34) 91.822.59.97
Fax: (+34) 91.822.52.89

ENAC CERTIFICACIÓN Nº 39/C-SG055

ANEXO I / *ANNEX I*

CERTIFICADO UNE-EN ISO 13485:2018/ *UNE-EN ISO 13485:2018 CERTIFICATE*

Modificaciones del alcance / *Scope modifications:*

Fecha/*Date*	**Descripción de la modificación**/ *Modification description*
18-12-2018	Cambio en la descripción del tipo de técnica en el ámbito tecnológico (inmunología infecciosa y técnicas de biología molecular). Cambio del nivel de detalle en la descripción del ámbito tecnológico *Change in the description of the method of analysis in the technological scope (infectious immunology and molecular biology techniques).* *Change in the level of detail of the technological scope description.*

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 18/12/2018
Localizador: DWRVYADC92
Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel.: (+34) 902.101.322 /(+34) 91.822.59.97
Fax: (+34) 91.822.52.89

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

agencia española de medicamentos y productos sanitarios

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 04/12/2008
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2008 12 0588 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: P6LLDBAA94

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax: (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 04/12/2008
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2008 12 0588 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis B, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis B infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HBs Ag one Version ULTRA ELISA cualitativo / ELISA qualitative

- SAG1ULTRA.CE (192 tests)
- SAG1ULTRA.CE.96 (96 tests)
- SAG1ULTRA.CE.480 (480 tests)
- SAG1ULTRA.CE.960 (960 tests)
- SAG1ULTRA.CE.DB (192 tests - for Dia.Blood application)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: P6LLDBAA94

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel.: (+34) 902 101 322 /(+34) 91 822 59 97
Fax: (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

agencia española de medicamentos y productos sanitarios

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0390 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: 62Y62AG59D

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRONICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0390 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis B, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis B infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HBs Ab ELISA cualitativo-cuantitativo / ELISA qualitative-quantitative

- SAB.CE (96 tests)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: 62Y62AG59D

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRONICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

agencia española de medicamentos y productos sanitarios

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0393 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: GJEC8290C8

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0393 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis D, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis D infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HDV Ab ELISA cualitativo / ELISA qualitative

- DAB.CE (96 tests)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: GJEC8290C8

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

agencia española de medicamentos y productos sanitarios

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0391 ED	Desde/From 26/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 23 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 23/11/2018
Localizador: RP3FCJG870

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax. (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0391 ED	Desde/From 26/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis B, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis B infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HBc Ab ELISA cualitativo / ELISA qualitative

- BCAB.CE (96 tests)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 23 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 23/11/2018
Localizador: RP3FCJG870

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax. (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 15/03/2004
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2004 03 0425 ED	Desde/From 26/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 23 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 23/11/2018
Localizador: 3P6PS5XA6C

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 15/03/2004
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2004 03 0425 ED	Desde/From 26/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis B, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis B infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HBe Ag & Ab ELISA cualitativo / ELISA qualitative

- HBE.CE (96 tests)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 23 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 23/11/2018
Localizador: 3P6PS5XA6C

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

MINISTERIO DE SANIDAD, CONSUMO Y BIENESTAR SOCIAL

agencia española de medicamentos y productos sanitarios

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0392 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: DIA. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Para el producto/For the product:

Categoría/Category: Productos Sanitarios para **Diagnóstico "In Vitro"** / In Vitro Diagnostic Medical Devices
Grupo genérico/Generic group: Diagnóstico de enfermedades infecciosas / Diagnostic of infectious diseases
Tipo/Type: Especificados en Anexos de este Certificado/Specified in Annexes to this Certificate.

Elaborado en/In the facilities:

Dia. Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).

Este certificado debe ir acompañado por el certificado CE de Sistema de Garantía de Calidad Total Nº 2003 12 0388 CT/ This certificate must be accompanied by the EC Full Quality Assurance System Certificate Nº 2003 12 0388 CT.

Este certificado es consecuencia de la evaluación de la documentación técnica del diseño contenida en el expediente Nº 2003 05 0240, y garantiza que el diseño de los productos descritos cumple los requisitos de la Directiva/ This certificate is issued on the assessment of the design documentation contained in dossier Nº 2003 05 0240, and guarantees that the design of the described products fulfil the requirements of the Directive.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: B86E8DZ586

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

CERTIFICADO DE EXAMEN CE DE DISEÑO
de acuerdo con el Anexo IV, punto 4, de la Directiva 98/79/CE

EC DESIGN-EXAMINATION CERTIFICATE
in accordance with Annex IV, Section 4, Directive 98/79/EC

PRÓRROGA/EXTENSION — Fecha inicial/ Initial date: 11/12/2003
Fecha de última prórroga/ Last extension date: 27/11/2013

Certificado nº/Certificate no	Fecha de validez/Date of validity	ON nº/NB no
2003 12 0392 ED	Desde/From 19/11/2018 Hasta/To 18/11/2023	0318

A favor de/In favour of:

Fabricante/Manufacturer:
Nombre/Name: Dia. Pro Diagnostic Bioprobes S.r.l.
Dirección/Address: Via G. Carducci, 27 -20099- Sesto San Giovanni – Milano (Italy).
Representante autorizado ante la UE/Authorized EU representative:
Nombre/Name: Idem Dirección/Address: Idem

Tipo de producto / Device type: Reactivos y productos reactivos, calibradores y materiales de control para el diagnóstico de enfermedades infecciosas / Reagents, and reagent products, calibrators and control materials for diagnostic of human infectious diseases.

Clasificación/Classification: Lista A, Anexo II / List A, Annex II

Reactivos y productos reactivos para la determinación, confirmación y cuantificación en muestras humanas de marcadores de infección por Hepatitis C, mediante técnicas de Inmunoabsorción enzimática (ELISA)/ Reagents and reactive products for the determination, confirmation and quantification in human specimens of markers of Hepatitis C infection, by Enzyme-linked immunosorbent assay (ELISA) [NANDO: IVD 0203]

HCV Ab ELISA cualitativo / ELISA qualitative

- CVAB.CE (192 tests)
- CVAB.CE.96 (96 tests)
- CVAB.CE.480 (480 tests)
- CVAB.CE.960 (960 tests)
- CVAB.CE.DB (192 tests - for Dia.Blood application)

Este certificado ampara todas las marcas de estos productos incluidas por el fabricante en su declaración de conformidad. / This certificate covers all trademarks of these products included by the manufacturer in his declaration of conformity.

Madrid, 19 de noviembre de 2018
DIRECTORA DE LA AGENCIA ESPAÑOLA DE MEDICAMENTOS Y PRODUCTOS SANITARIOS

agencia española de medicamentos y productos sanitarios

Fdo. Mª Jesús Lamas Díaz

Firmado digitalmente por: Agencia Española de Medicamentos y Productos Sanitarios
Fecha de la firma: 19/11/2018
Localizador: B86E8DZ586

Puede comprobar la autenticidad del documento en la aplicación Localizador de la Web de la AEMPS

CORREO ELECTRÓNICO
on0318@aemps.es

C/ CAMPEZO, 1 - EDIFICIO 8
28022 MADRID
Tel. (+34) 902 101 322 /(+34) 91 822 59 97
Fax (+34) 91 822 52 89

ORGANISMO NOTIFICADO 0318

Dia.Pro
Diagnostic
BioProbes

EC DECLARATION OF CONFORMITY

MANUFACTURER	DIA.PRO DIAGNOSTIC BIOPROBES S.R.L. VIA G. CARDUCCI N° 27 – 20099 SESTO SAN GIOVANNI (MILANO) – ITALY
PRODUCT	HP IgG CODE: HPG.CE (96 tests)
CLASSIFICATION	GENERAL IVD
CONFORMITY ASSESSMENT ROUTE	SELF CERTIFICATION

WE HEREBY DECLARE THAT THE ABOVE MENTIONED PRODUCT MEETS THE PROVISIONS OF THE COUNCIL DIRECTIVE 98/79/EC FOR IN VITRO DIAGNOSTIC DEVICES.

ISO CERTIFICATE(S)	UNI CEI EN ISO 13485–Nr 50 100 5931/B RELEASED BY CERTIFICATION BODY TÜV Italia S.r.l.

PLACE & DATE OF FIRST ISSUE	MILANO – MARCH 2004
PLACE & DATE OF CURRENT ISSUE	SESTO SAN GIOVANNI (MI) – MAY 2018
SIGNATURE Legal Representative Dr.ssa Fiorenza Scozzesi	DIA.PRO DIAGNOSTIC BIOPROBES S.R.L.

Rev: 05/2018

HBsAg one

Version ULTRA

Fourth generation Enzyme Immunoassay (ELISA) for the determination of Hepatitis B surface Antigen or HBsAg in human serum and plasma

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF SAGIULTRA.CE
96/192/480/960 Tests

HBsAg One version ULTRA

A. INTENDED USE

Fourth generation Enzyme Immunoassay (ELISA) for the one-step determination of Hepatitis B surface Antigen or HBsAg in human plasma and sera.
The kit is intended for the screening of blood units, is able to detect HBsAg mutants and finds application in the follow-up of HBV-infected patients.
For "in vitro" diagnostic use only.

B. INTRODUCTION

The World Health Organization (WHO) defines Hepatitis B Virus infection as follows:

"Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. Hepatitis means inflammation of the liver, and the most common cause is infection with one of 5 viruses, called hepatitis A,B,C,D, and E. All of these viruses can cause an acute disease with symptoms lasting several weeks including yellowing of the skin and eyes (jaundice); dark urine; extreme fatigue; nausea; vomiting and abdominal pain. It can take several months to a year to feel fit again. Hepatitis B virus can cause chronic infection in which the patient never gets rid of the virus and many years later develops cirrhosis of the liver or liver cancer.

HBV is the most serious type of viral hepatitis and the only type causing chronic hepatitis for which a vaccine is available. Hepatitis B virus is transmitted by contact with blood or body fluids of an infected person in the same way as human immunodeficiency virus (HIV), the virus that causes AIDS. However, HBV is 50 to 100 times more infectious than HIV. The main ways of getting infected with HBV are: (a) perinatal (from mother to baby at the birth); (b) child- to-child transmission; (c) unsafe injections and transfusions; (d) sexual contact.

Worldwide, most infections occur from infected mother to child, from child to child contact in household settings, and from reuse of un-sterilized needles and syringes. In many developing countries, almost all children become infected with the virus. In many industrialized countries (e.g. Western Europe and North America), the pattern of transmission is different. In these countries, mother-to-infant and child-to-child transmission accounted for up to one third of chronic infections before childhood hepatitis B vaccination programmes were implemented. However, the majority of infections in these countries are acquired during young adulthood by sexual activity, and injecting drug use. In addition, hepatitis B virus is the major infectious occupational hazard of health workers, and most health care workers have received hepatitis B vaccine.

Hepatitis B virus is not spread by contaminated food or water, and cannot be spread casually in the workplace. High rates of chronic HBV infection are also found in the southern parts of Eastern and Central Europe. In the Middle East and Indian sub-continent, about 5% are chronically infected. Infection is less common in Western Europe and North America, where less than 1% are chronically infected.

Young children who become infected with HBV are the most likely to develop chronic infection. About 90% of infants infected during the first year of life and 30% to 50% of children infected between 1 to 4 years of age develop chronic infection. The risk of death from HBV-related liver cancer or cirrhosis is approximately 25% for persons who become chronically infected during childhood. Chronic hepatitis B in some patients is treated with drugs called *interferon or lamivudine*, which can help some patients. Patients with cirrhosis are sometimes given liver transplants, with varying success. It is preferable to prevent this disease with vaccine than to try and cure it.

Hepatitis B vaccine has an outstanding record of safety and effectiveness. Since 1982, over one billion doses of hepatitis B vaccine have been used worldwide. The vaccine is given as a series of three intramuscular doses. Studies have shown that the vaccine is 95% effective in preventing children and adults from developing chronic infection if they have not yet been infected. In many countries where 8% to 15% of children used to become chronically infected with HBV, the rate of chronic infection has been reduced to less than 1% in immunized groups of children. Since 1991, WHO has called for all countries to add hepatitis B vaccine into their national immunization programs."

Hepatitis B surface Antigen or HBsAg is the most important protein of the envelope of Hepatitis B Virus, responsible for acute and chronic viral hepatitis.
The surface antigen contains the determinant "a", common to all the known viral subtypes, immunologically distinguished by two distinct subgroups (ay and ad).
The ability to detect HBsAg with high sensitive immunoassays in the last years has led to an understanding of its distribution and epidemiology worldwide and to radically decrease the risk of infection in transfusion.

C. PRINCIPLE OF THE TEST

A mix of mouse monoclonal antibodies specific to the determinants "a", "d" and "y" of HBsAg is fixed to the surface of microwells. Patient's serum/plasma is added to the microwell together with a second mix of mouse monoclonal antibodies, conjugated with Horseradish Peroxidase (HRP) and directed against a different epitope of the determinant "a" and against "preS".
The specific immunocomplex, formed in the presence of HBsAg in the sample, is captured by the solid phase.
At the end of the one-step incubation, microwells are washed to remove unbound serum proteins and HRP conjugate.
The chromogen/substrate is then added and, in the presence of captured HBsAg immunocomplex, the colorless substrate is hydrolyzed by the bound HRP conjugate to a colored end-product. After blocking the enzymatic reaction, its optical density is measured by an ELISA reader.
The color intensity is proportional to the amount of HBsAg present in the sample.
The version ULTRA is particularly suitable for automated screenings and is able to detect "s" mutants.

D. COMPONENTS

The standard configuration contains reagents to perform 192 tests and is made of the following components:

1. Microplate MICROPLATE
n° 2. 12 strips of 8 breakable wells coated with anti HBsAg, affinity purified mouse monoclonal antibodies, specific to "a", "y" and "d" determinants, and sealed into a bag with desiccant.

2. Negative Control CONTROL -
1x4.0ml/vial. Ready to use control. It contains goat serum, 10 mM phosphate buffer pH 7.4+/-0.1, 0.09% Na-azide and 0.1% Kathon GC as preservatives. The negative control is pale yellow color coded.

3. Positive Control CONTROL +
1x4.0ml/vial. Ready to use control. It contains goat serum, non infectious recombinant HBsAg, 10 mM phosphate buffer pH 7.4+/-0.1, 0.02% gentamicine sulphate and 0.1% Kathon GC as preservatives. The positive control is color coded green.

4. Calibrator CAL ...
n° 2 vials. Lyophilized calibrator. To be dissolved with EIA grade water as reported in the label. Contains fetal bovine serum, non infectious recombinant HBsAg at 0.5 IU/ml (2nd WHO international standard for HBsAg, NIBSC code 00/588), 10 mM phosphate buffer pH 7.4+/-0.1, 0.02% gentamicine sulphate and 0.1% Kathon GC as preservatives.
Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label.

5. Wash buffer concentrate WASHBUF 20X
2x60ml/bottle. 20X concentrated solution. Once diluted, the wash solution contains 10 mM phosphate buffer pH 7.0+/-0.2, 0.05% Tween 20 and 0.1% Kathon GC.

is recommended to run an assay with the kit controls/calibrator and well-characterized negative and positive reference samples, and check to match the values reported below in the section "Internal Quality Control". Regular calibration of the volumes delivered and maintenance (decontamination and cleaning of needles) of the washer has to be carried out according to the instructions of the manufacturer.

5. **Incubation times** have a tolerance of ±5%.
6. The **microplate reader** has to be equipped with a reading filter of 450nm and with a second filter (620-630nm, strongly recommended) for blanking purposes. Its standard performances should be (a) bandwidth ≤ 10 nm; (b) absorbance range from 0 to ≥ 2.0; (c) linearity to ≥ 2.0; (d) repeatability ≥ 1%. Blanking is carried out on the well identified in the section "Assay Procedure". The optical system of the reader has to be calibrated regularly to ensure that the correct optical density is measured. It should be regularly maintained according to the manufacturer 's instructions.
7. When using **ELISA automated workstations**, all critical steps (dispensation, incubation, washing, reading, shaking, data handling, etc.) have to be carefully set, calibrated, controlled and regularly serviced in order to match the values reported in the sections "Internal Quality Control". The assay protocol has to be installed in the operating system of the unit and validated by checking full matching the declared performances of the kit. In addition, the liquid handling part of the station (dispensation and washing) has to be validated and correctly set paying particular attention to avoid carry over by the needles used for dispensing samples and for washing. The carry over effect must be studied and controlled to minimize the possibility of contamination of adjacent wells due to strongly reactive samples, leading to false positive results. The use of ELISA automated work stations is recommended for blood screening and when the number of samples to be tested exceed 20-30 units per run.
8. When using automatic devices, in case the vial holder of the instrument does not fit with the vials supplied in the kit, transfer the solution into appropriate containers and label them with the same label peeled out from the original vial. This operation is important in order to avoid mismatching contents of vials, when transferring them. When the test is over, return the secondary labeled containers to 2..8°C, firmly capped.
9. **Dia.Pro's customer service** offers support to the user in the setting and checking of instruments used in combination with the kit, in order to assure full compliance with the essential requirements of the assay. Support is also provided for the installation of new instruments to be used in combination with the kit.

L. PRE ASSAY CONTROLS AND OPERATIONS

1. Check the expiration date of the kit printed on the external label of the kit box. Do not use if expired.
2. Check that the liquid components are not contaminated by naked-eye visible particles or aggregates. Check that the Chromogen/Substrate is colorless or pale blue. Check that no breakage occurred in transportation and no spillage of liquid is present inside the box. Check that the aluminum pouch, containing the microplate, is not punctured or damaged.
3. Dilute all the content of the 20x concentrated Wash Solution as described above.
4. Dilute the 20X concentrated Enzyme Conjugate with its Diluent as reported.
5. Dissolve the Calibrator as described above.
6. Allow all the other components to reach room temperature (about 1 hr) and then mix as described.
7. Set the ELISA incubator at +37°C and prepare the ELISA washer by priming with the diluted washing solution, according to the manufacturers instructions. Set the right number of washing cycles as found in the validation of the instrument for its use with the kit.
8. Check that the ELISA reader has been turned on at least 20 minutes before reading.
9. If using an automated workstation, turn it on, check settings and be sure to use the right assay protocol.
10. Check that the micropipettes are set to the required volume.
11. Check that all the other equipment is available and ready to use.
12. In case of problems, do not proceed further with the test and advise the supervisor.

M. ASSAY PROCEDURE

The assay has to be carried out according to what reported below, taking care to maintain the same incubation time for all the samples in testing.

Automated assay:

In case the test is carried out automatically with an ELISA system, we suggest to make the instrument dispense first 150 ul controls & calibrator, then all the samples and finally 100 ul diluted Enzyme Conjugate.
For the pre-washing step (point 1 of the assay procedure) and all the next operations follow the operative instructions reported below for the Manual Assay.
It is strongly recommended to check that the time lap between the dispensation of the first and the last sample will be calculated by the instrument and taken into consideration by delaying the first washing operation accordingly.

Manual Assay:

1. Place the required number of strips in the plastic holder and wash them once to hydrate wells. Carefully identify the wells for controls, calibrator and samples.

Important note: *Pre washing (1 cycle: dispensation of 350ul/well of washing solution+ aspiration) is fundamental to obtain reliable and specific results both in the manual and in the automatic procedures. Do not omit it !*

2. Leave the A1 well empty for blanking purposes.
3. Pipette 150µl of the Negative Control in triplicate, 150ul of the Calibrator in duplicate and then 150ul of the Positive Control in single followed by 150ul of each of the samples.
4. Check for the presence of samples in wells by naked eye (there is a marked color difference between empty and full wells) or by reading at 450/620nm. (samples show OD values higher than 0,100).
5. Dispense 100ul diluted Enzymatic Conjugate in all wells, except for A1, used for blanking operations.

Important note: *Be careful not to touch the inner surface of the well with the pipette tip when the conjugate is dispensed. Contamination might occur.*

6. Following addition of the conjugate, check that the color of the samples have changed from yellowish to pink/red and then incubate the microplate for **120 min at +37°C**.

Important notes:

a. *Strips have to be sealed with the adhesive sealing foil, only when the test is performed manually. Do not cover strips when using ELISA automatic instruments.*
b. *If the procedure is carried out on shaking, be sure to deliver the rpm reported for in Section I.3 as otherwise intra-well contamination could occur.*

7. When the first incubation is over, wash the microwells as previously described (section I.4)

8. Pipette 200 µl Chromogen/Substrate into all the wells, A1 included.

Important note: *Do not expose to strong direct light as a high background might be generated.*

9. Incubate the microplate protected from light at **18-24°C for 30 min.** Wells dispensed with the positive control, the calibrator and positive samples will turn from clear to blue.
10. Pipette 100 µl Sulphuric Acid into all the wells to stop the enzymatic reaction, using the same pipetting sequence as in step 8. Addition of the acid solution will turn the positive control, the calibrator and positive samples from blue to yellow/brown.
11. Measure the color intensity of the solution in each well, as described in section I.6 using a 450nm filter (reading) and a 620-630nm filter (background subtraction, strongly recommended), blanking the instrument on A1.

Important general notes:

1. *If the second filter is not available, ensure that no fingerprints or dust are present on the external bottom of the microwell before reading at 450nm. They could generate false positive results on reading.*
2. *Reading should ideally be performed immediately after the addition of the acid solution but definitely no longer than 20 minutes afterwards. Some self-oxidation of the chromogen can occur leading to a higher background.*
3. *When samples to be tested are not surely clean or have been stored frozen, the assay procedure reported below is recommended as long as it is far less sensitive to interferences due to hemolysis, hyperlipaemia, bacterial contamination and fibrin microparticles. The assay is carried out in two-steps at +37°C on shaking at* 350 rpm ±150 *as follows:*
   - *dispense 100 ul of controls, calibrator and samples*
   - *incubate 60 min at +37°C on shaking*
   - *wash according to instructions (section I.4)*
   - *dispense 100 ul diluted enzyme tracer*
   - *incubate 30 min at +37°C on shaking*
   - *wash*
   - *dispense 100 ul TMB&H2O2 mix*
   - *incubate 30 min at r.t. on shaking*
   - *stop and read*

   In this procedure the pre-wash can be omitted.
   This method shows performances similar to the standard one and therefore can be used in alternative.
4. *The Calibrator (CAL) does not affect the cut-off calculation and therefore the test results calculation. The Calibrator may be used only when a laboratory internal quality control is required by the management.*

N. ASSAY SCHEME

Operations	Procedure
Pre-Washing step	n° 1 cycle
Controls&Calibrator&samples	150 ul
Diluted Enzyme Conjugate	100 ul
1st incubation	**120 min**
Temperature	+37°C
Washing steps	n° 4-5
Chromogen/Substrate	200ul
2nd incubation	**30 min**
Temperature	room
Sulphuric Acid	100 ul
Reading OD	450nm

An example of dispensation scheme is reported in the following section:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S2										
B	NC	S3										
C	NC	S4										
D	NC	S5										
E	CAL	S6										
F	CAL	S7										
G	PC	S8										
H	S1	S9										

Legenda: BLK = Blank NC = Negative Control
CAL = Calibrator PC = Positive Control S = Sample

O. INTERNAL QUALITY CONTROL

A check is performed on the controls/calibrator any time the kit is used in order to verify whether the expected OD450nm or S/Co values have been matched in the analysis.

Ensure that the following results are met:

Parameter	Requirements
Blank well	< 0.100 OD450nm value
Negative Control (NC)	< 0,050 mean OD450nm value after blanking
Calibrator 0,5 IU/ml	S/Co ≥ 2
Positive Control	> 1,000 OD450nm value

If the results of the test match the requirements stated above, proceed to the next section.
If they do not, do not proceed any further and perform the following checks:

Problem	Check
Blank well > 0.100 OD450nm	1. that the Chromogen/Substrate solution has not become contaminated during the assay
Negative Control (NC) > 0,050 OD450nm after blanking	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (dispensation of positive control instead of the negative one); 4. that no contamination of the negative control or of the wells where the control was dispensed has occurred due to spills of positive samples or of the enzyme conjugate; 5. that micropipettes have not become contaminated with positive samples or with the enzyme conjugate 6. that the washer needles are not blocked or partially obstructed.

REFERENCES

1. Aach R.D., Grisham J.W., Parker S.W.. Detection of Australia antigen by radioimmunoassay. Proc.Natl.Acad.Sci.,USA, 68:1956, 1971.
2. Blumerg B.S., Suinick A.I., London W.T.. Hepatitis and leukemia: their relation to Australia antigen. Bull.N.Y.Acad.Med., 44:1566, 1968.
3. Boniolo A., Dovis M., Matteja R.. The use of enzyme-linked immunosorbent assay for screening hybridoma antibodies against hepatitis B surface antigen. J.Immunol.Meth., 49:1, 1982.
4. Caldwell C.W., Barpet J.T., Enzyme immunoassay for hepatitis B and its comparison to other methods. Cli.Chim.Acta 81: 305, 1977
5. Fazekas S., De St.Groth, Scheidegger D., production of monoclonal antibodies: strategy and tactics. J.Immunol.Meth., 35: 1, 1960
6. Reesink H.W., et al., Comparison of six 3rd generation tests for the detection of HBsAg. Vox.Sang., 39:61, 1980
7. Rook G.A.W., Chromogens for the enzyme-linked immunosorbent assay (ELISA) using horseradish peroxidase. Lepr.Rev. 52: 281, 1981
8. Schroder J., Monoclonal antibodies: a new tool for reasearch and immunodiagnostic. Med.Biol., 58: 281, 1981
9. Coleman PF, Chen YC, Mushahwar IK. Immunoassay detection of hepatitis B surface antigen mutants. J.Med.Virol. 1999;59(1):19-24

All the IVD Products manufactured by the company are under the control of a certified Quality Management System approved by an EC Notified Body. Each lot is submitted to a quality control and released into the market only if conforming with the EC technical specifications and acceptance criteria.

Manufacturer:
Dia.Pro Diagnostic Bioprobes S.r.l.
Via G. Carducci n° 27 – Sesto San Giovanni (MI) – Italy

CE
0318

HBsAb

Enzyme Immunoassay for qualitative/quantitative determination of antibodies to Hepatitis B surface Antigen in human serum and plasma

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF SAB.CE
96 Tests

HBs Ab

A. INTENDED USE

Enzyme ImmunoAssay (ELISA) for both the quantitative and qualitative determination of antibodies to the Surface Antigen of Hepatitis B Virus in human plasma and sera.
For "in vitro" diagnostic use only.

B. INTRODUCTION

The World Health Organization (WHO) defines Hepatitis B Virus infection as follows:

"Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. Hepatitis means inflammation of the liver, and the most common cause is infection with one of 5 viruses, called hepatitis A,B,C,D, and E. All of these viruses can cause an acute disease with symptoms lasting several weeks including yellowing of the skin and eyes (jaundice); dark urine; extreme fatigue; nausea; vomiting and abdominal pain. It can take several months to a year to feel fit again. Hepatitis B virus can cause chronic infection in which the patient never gets rid of the virus and many years later develops cirrhosis of the liver or liver cancer.

HBV is the most serious type of viral hepatitis and the only type causing chronic hepatitis for which a vaccine is available. Hepatitis B virus is transmitted by contact with blood or body fluids of an infected person in the same way as human immunodeficiency virus (HIV), the virus that causes AIDS. However, HBV is 50 to 100 times more infectious than HIV. The main ways of getting infected with HBV are: (a) perinatal (from mother to baby at the birth); (b) child- to-child transmission; (c) unsafe injections and transfusions; (d) sexual contact.

Worldwide, most infections occur from infected mother to child, from child to child contact in household settings, and from reuse of un-sterilized needles and syringes. In many developing countries, almost all children become infected with the virus. In many industrialized countries (e.g. Western Europe and North America), the pattern of transmission is different. In these countries, mother-to-infant and child-to-child transmission accounted for up to one third of chronic infections before childhood hepatitis B vaccination programmes were implemented. However, the majority of infections in these countries are acquired during young adulthood by sexual activity, and injecting drug use. In addition, hepatitis B virus is the major infectious occupational hazard of health workers, and most health care workers have received hepatitis B vaccine.

Hepatitis B virus is not spread by contaminated food or water, and cannot be spread casually in the workplace. High rates of chronic HBV infection are also found in the southern parts of Eastern and Central Europe. In the Middle East and Indian sub-continent, about 5% are chronically infected. Infection is less common in Western Europe and North America, where less than 1% are chronically infected.

Young children who become infected with HBV are the most likely to develop chronic infection. About 90% of infants infected during the first year of life and 30% to 50% of children infected between 1 to 4 years of age develop chronic infection. The risk of death from HBV-related liver cancer or cirrhosis is approximately 25% for persons who become chronically infected during childhood.

Chronic hepatitis B in some patients is treated with drugs called *interferon or lamivudine*, which can help some patients. Patients with cirrhosis are sometimes given liver transplants, with varying success. It is preferable to prevent this disease with vaccine than to try and cure it.

Hepatitis B vaccine has an outstanding record of safety and effectiveness. Since 1982, over one billion doses of hepatitis B vaccine have been used worldwide. The vaccine is given as a series of three intramuscular doses. Studies have shown that the vaccine is 95% effective in preventing children and adults from developing chronic infection if they have not yet been infected. In many countries where 8% to 15% of children used to become chronically infected with HBV, the rate of chronic infection has been reduced to less than 1% in immunized groups of children. Since 1991, WHO has called for all countries to add hepatitis B vaccine into their national immunization programmes."

Hepatitis B surface Antigen (HBsAg) is the major structural polypeptide of the envelope of the Hepatitis B Virus (HBV).
This antigen is composed mainly of the type common determinant "a" and the type specific determinants "d" and "y", present only on the specific serotypes.
Upon infection, a strong immunological response develops firstly against the type specific determinants and in a second time against the "a" determinant.
Anti "a" antibodies are however recognised to be most effective in the neutralisation of the virus, protecting the patient from other infections and leading it to convalescence.
The detection of HBsAb has become important for the follow up of patients infected by HBV and the monitoring of recipients upon vaccination with synthetic and natural HBsAg.

C. PRINCIPLE OF THE TEST

Microplates are coated with a preparation of highly purified HBsAg that in the first incubation with sample specifically captures anti HBsAg antibodies to the solid phase.
After washing, captured antibodies are detected by an HBsAg, labelled with peroxidase (HRP), that specifically binds the second available binding site of these antibodies.
The enzyme specifically bound to wells, by acting on the substrate/chromogen mixture, generates an optical signal that is proportional to the amount of HBsAb in the sample and can be detected by an ELISA reader.
The amount of antibodies may be quantitated by means of a standard curve calibrated against the W.H.O reference preparation.
Samples are pre treated in the well with an specimen diluent able to block interference present in vaccinated individuals.

D. COMPONENTS

Each kit contains sufficient reagents to perform 96 tests.

1. Microplate: MICROPLATE
8x12 microwell strips coated with purified heat-inactivated HBsAg of both subtypes (ad and ay) from human origin and sealed into a bag with desiccant.
Allow the microplate to reach room temperature before opening; reseal unused strips in the bag with desiccant and store at 4°C.

values reported in the sections "Validation of Test" and "Assay Performances". The assay protocol has to be installed in the operating system of the unit and validated as for the washer and the reader. In addition, the liquid handling part of the station (dispensation and washing) has to be validated and correctly set. Particular attention must be paid to avoid carry over by the needles used for dispensing samples and for washing. This must be studied and controlled to minimize the possibility of contamination of adjacent wells due to strongly reactive samples, leading to false positive results. The use of ELISA automated work stations is recommended for blood screening and when the number of samples to be tested exceed 20-30 units per run.

7. Dia.Pro's customer service offers support to the user in the setting and checking of instruments used in combination with the kit, in order to assure full compliance with the requirements described. Support is also provided for the installation of new instruments to be used with the kit.

L. PRE ASSAY CONTROLS AND OPERATIONS

1. Check the expiration date of the kit printed on the external label of the kit box. Do not use if expired.
2. Check that the liquid components are not contaminated by naked-eye visible particles or aggregates. Check that the Chromogen/Substrate is colorless or pale blue by aspirating a small volume of it with a sterile transparent plastic pipette. Check that no breakage occurred in transportation and no spillage of liquid is present inside the box. Check that the aluminum pouch, containing the microplate, is not punctured or damaged.
3. Dilute all the content of the 20x concentrated Wash Solution as described above.
4. Dissolve the Control Serum as described above.
5. Allow all the other components to reach room temperature (about 1 hr) and then mix as described.
6. Set the ELISA incubator at +37°C and prepare the ELISA washer by priming with the diluted washing solution, according to the manufacturers instructions. Set the right number of washing cycles as found in the validation of the instrument for its use with the kit.
7. Check that the ELISA reader has been turned on at least 20 minutes before reading.
8. If using an automated workstation, turn it on, check settings and be sure to use the right assay protocol.
9. Check that the micropipettes are set to the required volume.
10. Check that all the other equipments are available and ready to use.

In case of problems, do not proceed further with the test and advise the supervisor.

M. ASSAY PROCEDURE

The assay has to be carried out according to what reported below, taking care to maintain the same incubation time for all the samples in testing.

Two procedures can be carried out with the device according to the request of the clinician.

M.1 Quantitative analysis

1. Place the required number of strips in the microplate holder. Leave A1 and B1 wells empty for the operation of blanking. Store the other strips into the bag in presence of the desiccant at 2..8°C, sealed.
Then Dispense in all the wells to be used for the test, except for A1 and B1, 50µl of the Specimen Diluent.

Important note: *This additive is added before distributing samples and controls into specific wells and is particularly intended for blocking some substances present in people undergoing vaccination and capable to mask antibodies.*

2. Pipette 100µl of all the Calibrators, 100µl of Control Serum in duplicate and then 100ul of samples. The Control Serum is used to verify that the whole analytical system works as expected. Check that Calibrators, Control Serum and samples have been correctly added. Then incubate the microplate at **+37°C for 60 min.**

Important note: *Strips have to be sealed with the adhesive sealing foil only when the test is performed manually. Do not cover strips when using ELISA automatic instruments.*

3. Wash the microplate as reported in section I.3.

4. In all the wells except A1 and B1, pipette 100 µl Enzyme Conjugate. Check that the reagent has been correctly added. Incubate the microplate at **+37°C for 60 minutes.**

Important note:

1) *Be careful not to touch the inner surface of the well with the pipette tip when dispensing the Enzyme Conjugate. Contamination might occur.*
2) *Mix thoroughly the Enzyme Conjugate on vortex before use.*

5. Wash the microplate as described.
6. Pipette 100µl TMB/H_2O_2 mixture in each well, the blank wells included. Check that the reagent has been correctly added. Then incubate the microplate at **room temperature for 20 minutes.**

Important note: *Do not expose to strong direct light as a high background might be generated.*

7. Stop the enzymatic reaction by pipette 100µl Sulphuric Acid into each well and using the same pipetting sequence as in step 6. Then measure the colour intensity with a microplate reader at 450nm (reading) and at 620-630nm (blanking, strongly recommended), blanking the instrument on A1 and B1 wells.

M.2 Qualitative analysis

1. Place the required number of strips in the microplate holder. Leave A1 well empty for the operation of blanking.
Store the other strips into the bag in presence of the desiccant at 2..8°C, sealed.
2. Dispense 50 ul Specimen Diluent in all the wells, except for the blank A1. Then pipette 100µl of the Calibrator 0 mIU/ml in duplicate, 100µl of the Calibrator 10 mIU/ml in duplicate, 100µl of the Calibrator 250 mIU/ml in single, and then 100ul of samples. Check that Calibrators and samples have been correctly added. Then incubate the microplate at **+37°C for 60 min.**
3. Wash the microplate as reported in section I.3.
4. In all the wells except A1, pipette 100 µl Enzyme Conjugate. Check that the reagent has been correctly added. Incubate the microplate at **+37°C for 60 minutes.**

Important note:

3) *Be careful not to touch the inner surface of the well with the pipette tip when dispensing the Enzyme Conjugate. Contamination might occur.*
4) *Mix thoroughly the Enzyme Conjugate on vortex before use.*

5. Wash the microplate as described.
6. Pipette 100µl TMB/H_2O_2 mixture in each well, the blank wells included. Check that the reagent has been correctly added. Then incubate the microplate at **room temperature for 20 minutes.**

Important note: *Do not expose to strong direct light as a high background might be generated.*

7. Stop the enzymatic reaction by pipette 100µl Sulphuric Acid into each well and using the same pipetting sequence as in step 6. Then measure the colour intensity with a microplate reader at 450nm (reading) and at 620-630nm (blanking, strongly recommended), blanking the instrument on A1 and B1 wells.

Important general notes:

1. *If the second filter is not available, ensure that no finger prints are present on the bottom of the microwell before reading at 450nm. Finger prints could generate false positive results on reading.*
2. *Reading has should ideally be performed immediately after the addition of the Stop Solution but definitely no longer than 20 minutes afterwards. Some self oxidation of the chromogen can occur leading to a higher background.*
3. *The Control Serum (CS) does not affect the cut-off calculation and therefore the test results calculation. The Control Serum may be used only when a laboratory internal quality control is required by the management.*

N. ASSAY SCHEME (standard procedure)

Specimen Diluent	50 ul
Calibrators	100 ul
Control Serum	100 ul
Samples	100 ul
1st incubation	**60 min**
Temperature	+37°C
Wash step	*4-5 cycles*
Enzyme Conjugate	100 ul
2nd incubation	**60 min**
Temperature	+37°C
Wash step	*4-5 cycles*
TMB/H2O2 mix	100 ul
3rd incubation	**20 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm & 620nm

An example of dispensation scheme in quantitative assays is reported below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	CAL4	S3									
B	BLK	CAL4	S4									
C	CAL1	CAL5	S5									
D	CAL1	CAL5	S6									
E	CAL2	CS	S7									
F	CAL2	CS	S8									
G	CAL3	S1	S9									
H	CAL3	S2	S10									

Legenda: BLK = Blank // CAL = Calibrators // CS = Control Serum // S = Sample

An example of dispensation scheme in qualitative assays is reported below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S 3	S 11									
B	CAL1	S 4	S 12									
C	CAL1	S 5	S 13									
D	CAL2	S 6	S 14									
E	CAL2	S 7	S 15									
F	CAL5	S 8	S 16									
G	S1	S 9	S 17									
H	S2	S 10	S 18									

Legenda: BLK = Blank // CAL = Calibrators // S = Sample

O. INTERNAL QUALITY CONTROL

A validation check is carried out on the controls any time the kit is used in order to verify whether the performances of the assay are as qualified.
Control that the following data are matched:

Parameters	Requirements
Blank well	< 0.100 OD450nm
Calibrator 0 WHO mIU/ml	< 0.200 OD450nm after blanking
Calibrator 10 WHO mIU/ml	OD450nm higher than the OD450nm of the Calibrator 0 mIU/ml + 0.100
Calibrator 250 WHO mIU/ml	> 1.500 OD450nm
Control Serum	OD450nm = OD450nm CAL 50 mIU/ml ± 10%
Coefficient of variation	< 30% for the Calibrator 0 mIU/ml

If the results of the test match the requirements stated above, proceed to the next section.
If they do not, do not proceed any further and perform the following checks:

Problem	Check
Blank well > 0.100 OD450nm	1. that the Chromogen/Substrate solution has not become contaminated during the assay
Calibrator 0 mIU/ml > 0.200 coefficient of variation > 30%	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure when the dispensation of standards is carried out; 4. that no contamination of the Cal 0 mIU/ml or of the wells where it was dispensed has occurred due to positive samples, to spills or to the enzyme conjugate; 5. that micropipettes have not become contaminated with positive samples or with the enzyme conjugate 6. that the washer needles are not blocked or partially obstructed.

REFERENCES

1. Engvall E. et al., J.Immunochemistry, 8, 871-874, 1971.
2. Engvall E. et al., J.Immunol. 109, 129-135, 1971.
3. Remington J.S. and Klein J.O. In "Infectious diseases of the fetus and newborn infant". Sanders, Philadelphia, London, Toronto.
4. Volk W.A. In "Essential of Medical Microbiology". 2nd ed., pp 729, G.B.Lippincott Company, Philadelphia, New York, S.José, Toronto
5. Snydman D.R. et al., Ann.Int.Med., 83 : 838, 1975.
6. Barker L.F., Dodd R.J., Sandler S.G.. In "viral Hepatitis: Laboratory and Clinical Science" F.Deinhardt, J. Deinhardt eds., M.Dekker Inc., New York, 215-230, 1983.
7. Cossart Y., Brit.Med.Bull., 28: 156, 1972
8. Lander J.J. et al., J.Immunol., 106: 1066, 1971
9. Mushawar I.K. et al.. Ann.J.Clin.Pathol., 76: 773, 1981.
10. Howard C.R., Immunol.Today, 5: 185, 1984
11. Aach R.D.. Lancet 7874: 190-193, 1974.
12. Jilg W. et al.. J.Hepatol. 9 : 201-207, 1988
13. P.Crovari et al., Boll. Ist. Sieroter. Milan., 63: 14-18, 1984
14. M.Davidson et al., J.Natl.Cancer Inst., 59 : 1451-1467, 1977
15. F.Gyorkey et al., J.Natl.Cancer Inst., 59: 1451-1467, 1977
16. S.Hadler et al., N.E.J.Med., 315: 209-214, 1986
17. J.H.Hoofnagle et al., Hepatology, 7: 758-763, 1987
18. C.L.Howard, J.Gen.Virol., 67: 1215-1235
19. W.Jilg et al. J.Hepatol., 6: 201-207, 1988
20. P.Michel et al., Nephrologie, 7: 114-117, 1986
21. W.Szmuness et al., N.E.J.Med., 303: 833-836, 1980
22. P.Tiollais et al., Nature, 317: 489-495, 1985
23. A.J.Zuckermann et al., in "Hepatitis Viruses of Man" Academic Press, London, 1979

All the IVD Products manufactured by the company are under the control of a certified Quality Management System approved by an EC Notified Body. Each lot is submitted to a quality control and released into the market only if conforming with the EC technical specifications and acceptance criteria.

Manufacturer:
Dia.Pro Diagnostic Bioprobes Srl
Via G. Carducci n° 27 – Sesto San Giovanni (MI) - Italy

CE
0318

HDV Ab

Competitive Enzyme Immunoassay for the qualitative determination of antibodies to Hepatitis Delta Virus in human serum and plasma

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF DAB.CE
96 Tests

HDV Ab

A. INTENDED USE

Competitive Enzyme ImmunoAssay (ELISA) for the qualitative determination of antibodies to Hepatitis Delta Virus or HDV in human plasma and sera with a "two-steps" methodology.
The kit is used for the follow-up of patients infected by HDV.
For "in vitro" diagnostic use only.

B. INTRODUCTION

The Hepatitis Delta Virus or HDV is a RNA defective virus composed of a core presenting the delta-specific antigen, encapsulated by HBsAg, that requires the helper function of HBV to support its replication.
Infection by HDV occurs in the presence of acute or chronic HBV infection. When acute delta and acute HBV simultaneously occur, the illness becomes severe and clinical and biochemical features may be indistinguishable from those of HBV infection alone. In contrast, a patient with chronic HBV infection can support HDV replication indefinitely, usually with a less severe illness appearing as a clinical exacerbation.
The determination of HDV specific serological markers (HDV Ag, HDV Ab, HDV IgM and HDV IgG) represents in these cases an important tool to the clinician for the classification of the etiological agent, for the follow up of infected patients and their treatment. The detection of HDV total antibodies allows the classification of the illness and the monitoring of the seroconversion event.

C. PRINCIPLE OF THE TEST

Anti-HDV antibodies, if present in the sample, compete with a virus-specific polyclonal IgG, labeled with peroxidase (HRP), for a fixed amount of rec-HDV coated on the microplate. The test is carried out with a two steps incubation competitive system. First the sample is added to the plate and specific anti HDV antibodies bind to the adsorbed antigen. After washing, an enzyme conjugated antibody to HDV is added and binds to the free portion of the antigen coated. After washing a chromogen/substrate mixture is dispensed. The concentration of the bound enzyme on the solid phase becomes inversely proportional to the amount of anti-HDV antibodies in the sample and its activity is detected by the added chromogen/substrate. The concentration of HDV-specific antibodies in the sample is determined by means of a cut-off value that allows for the semi quantitative detection of anti-HDV antibodies.

D. COMPONENTS

Each kit contains sufficient reagents to perform 96 tests.

1. Microplate: MICROPLATE
8x12 microwell strips coated with recombinant HDV-specific antigen and sealed into a bag with desiccant. Allow the microplate to reach room temperature before opening; reseal unused strips in the bag with desiccant and store at 4°C.

2. Negative Control: CONTROL -
1x2.0ml/vial. Ready to use. Contains goat serum proteins, 100 mM Tris-HCl buffer pH 7.4 +/-0.1, 0.09% Sodium Azide and 0.1% Kathon GC as preservatives. The negative control is colour coded pale yellow.

3. Positive Control: CONTROL +
1x2.0ml/vial. Ready to use. Contains goat serum proteins, high titer anti HDV antibodies, 100 mM Tris-HCl buffer pH 7.4 +/-0.1, 0.09% Sodium Azide and 0.1% Kathon GC as preservatives.
The positive control is colour coded green.

4. Calibrator: CAL ...
n° 1 vial. Lyophilised. To be dissolved with EIA grade water as reported in the label. Contains bovine serum proteins, low titer human antibodies to HDV, 0.2 mg/ml gentamicine sulphate and 0.1% Kathon GC as preservatives.
Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label.

5. Wash buffer concentrate: WASHBUF 20X
1x60ml/bottle. 20x concentrated solution.
Once diluted, the wash solution contains 10 mM phosphate buffer pH 7.0+/-0.2, 0.05% Tween 20 and 0.1% Kathon GC.

6. Enzyme conjugate: CONJ
1x16ml/vial. Ready-to-use solution. Contains 5% bovine serum albumine, 10 mM tris buffer pH 6.8 +/-0.1, Horseradish peroxidase conjugated antibody to HDV in presence of 0.2 mg/ml gentamicine sulphate and 0.1% Kathon GC as preservatives. The component is colour coded red.

7. Chromogen/Substrate: SUBS TMB
1x16ml/vial. Contains a 50 mM citrate-phosphate buffered solution at pH 3.5-3.8, 4% DMSO, 0.03% tetra-methyl-benzidine or TMB and 0.02% hydrogen peroxide of H_2O_2.
Note: To be stored protected from light as sensitive to strong illumination.

8. Sulphuric Acid: H_2SO_4 0.3 M
1x15ml/vial. Contains 0.3 M H_2SO_4 solution.
Attention: Irritant (H315, H319; P280, P302+P352, P332+P313, P305+P351+P338, P337+P313, P362+P363).

Plate sealers n° 2

Instructions for Use n° 1

E. MATERIALS REQUIRED BUT NOT PROVIDED

1. Calibrated Micropipettes in the range 10-1000 ul and disposable plastic tips.
2. EIA grade water (double distilled or deionized, charcoal treated to remove oxidizing chemicals used as disinfectants).
3. Timer with 60 minute range or higher.
4. Absorbent paper tissues.
5. Calibrated ELISA microplate thermostatic incubator (dry or wet) set at +37°C.
6. Calibrated ELISA microwell reader with 450nm (reading) and with 620-630nm (blanking) filters.
7. Calibrated ELISA microplate washer.
8. Vortex or similar mixing tools.

F. WARNINGS AND PRECAUTIONS

1. The kit has to be used by skilled and properly trained technical personnel only, under the supervision of a medical doctor responsible of the laboratory.
2. All the personnel involved in performing the assay have to wear protective laboratory clothes, talc-free gloves and glasses. The use of any sharp (needles) or cutting (blades) devices should be avoided. All the personnel involved should be trained in biosafety procedures, as recommended by the Center for Disease Control, Atlanta, U.S. and reported in the National Institute of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
3. All the personnel involved in sample handling should be vaccinated for HBV and HAV, for which vaccines are available, safe and effective.

6. Pipette 100 µl TMB/H_2O_2 mixture in each well, the blank wells included. Check that the reagent has been correctly added. Then incubate the microplate at **room temperature for 20 min.**

Important note: *Do not expose to strong direct light as a high background might be generated.*

7. Pipette 100 µl Sulphuric Acid into all the wells using the same pipetting sequence as in step n° 6 to stop the enzymatic reaction. Addition of the stop solution will turn the negative control and negative samples from blue to yellow.

8. Measure the colour intensity of the solution in each well, as described in section I.5 using a 450nm filter (reading) and a 620-630nm filter (background subtraction, strongly recommended), blanking the instrument on A1.

Important notes:

1. *If the second filter is not available, ensure that no finger prints are present on the bottom of the microwell before reading at 450nm. Finger prints could generate false positive results on reading.*
2. *Reading has should ideally be performed immediately after the addition of the Stop Solution but definitely no longer than 20 minutes afterwards. Some self oxidation of the chromogen can occur leading to a higher background.*
3. *The use of the Calibrator, a low positive control, is not mandatory for the assay as the CAL does not enter into the cut-off calculation. The CAL may be used as a low titer positive control when a laboratory internal quality verification is required by the management. When used for such purpose, dispense 100 ul of it, possibly in duplicate.*

N. ASSAY SCHEME

Controls/Calibrator	100 ul
Samples	100 ul
1st incubation	**60 min**
Temperature	+37°C
Washing step	4-5 cycles
Enzyme Conjugate	100 ul
2nd incubation	**60 min**
Temperature	+37°C
Washing step	4-5 cycles
TMB/H2O2 mix	100 ul
3rd incubation	**20 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm & 620nm

An example of dispensation scheme (including CAL) is reported in the table below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S2										
B	NC	S3										
C	NC	S4										
D	NC	S5										
E	CAL	S6										
F	CAL	S7										
G	PC	S8										
H	S1	S9										

Legenda: BLK = Blank NC = Negative Control
CAL = Calibrator PC = Positive Control S = Sample

O. INTERNAL QUALITY CONTROL

A check is performed on the negative and positive controls any time, and on the Calibrator in addition when the kit is used for the first time, in order to verify whether the expected OD450nm or Co/S values have been matched in the analysis.
Ensure that the following parameters are met:

Parameter	Requirements
Blank well	< 0.100 OD450nm value
Negative Control (NC)	> 1.000 OD450nm after blanking If lower carefully control the washing procedure and decrease the number of cycles or the soaking time coefficient of variation < 30%
Positive Control (PC)	OD450 nm < NC/10
Calibrator (CAL)	PC < OD450nm < (NC+PC)/5

If the results of the test match the requirements stated above, proceed to the next section.
If they don't, do not proceed any further and perform the following checks:

Problem	Check
Blank well > 0.100 OD450nm	that the Chromogen/Substrate solution has not become contaminated during the assay
Negative Control (NC) < 1.000 OD450nm after blanking coefficient of variation > 30%	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (dispensation of positive control instead of negative control); 4. that no contamination of the negative control or of the wells where the control was dispensed has occurred due to positive samples, to spills or to the enzyme conjugate; 5. that micropipettes have not become contaminated with positive samples or with the enzyme conjugate; 6. that the washer needles are not blocked or partially obstructed.
Calibrator OD450nm Outside the range	1. that the procedure has been correctly performed; 2. that no mistake has occurred during its distribution (ex.: dispensation of negative control instead of Calibrator); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the calibrator has occurred.
Positive Control OD450nm > NC/10	1. that the procedure has been correctly performed; 2. that no mistake has occurred during the distribution of the control (dispensation of negative control instead of positive control); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the positive control has occurred.

If any of the above problems have occurred, report the problem to the supervisor for further actions.

P. RESULTS

The results are calculated by means of a cut-off value determined with the following formula:

Cut-Off = (NC + PC) / 5

Important note: *When the calculation of results is performed by the operating system of an ELISA automated work station, ensure that the proper formulation is used to calculate the cut-off value and generate the correct interpretation of results.*

Q. INTERPRETATION OF RESULTS

Results are interpreted as ratio between the cut-off value and the sample OD450nm or Co/S. Results are interpreted according to the following table:

Co/S	Interpretation
< 0.9	Negative
0.9 – 1.1	Equivocal
> 1.1	Positive

A negative result indicates that the patient has not been infected by HDV.
Any patient showing an equivocal result should be re-tested on a second sample taken 1-2 weeks after the initial sample.
A positive result is indicative of HDV infection and therefore the patient should be treated accordingly.

Important notes:

1. *Interpretation of results should be done under the supervision of the laboratory supervisor to reduce the risk of judgement errors and misinterpretations.*
2. *When test results are transmitted from the laboratory to another facility, attention must be paid to avoid erroneous data transfer.*
3. *Diagnosis of viral hepatitis infection has to be taken by and released to the patient by a suitably qualified medical doctor.*

An example of calculation is reported below.

The following data must not be used instead of real figures obtained by the user.

Negative Control: 2.100 – 2.200 – 2.000 OD450nm
Mean Value: 2.100 OD450nm
Higher than 1.000 – Accepted

Positive Control: 0.100 OD450nm
Lower than NC/10 – Accepted

Cut-Off = (2.100 + 0.100) / 5 = 0.440

Calibrator: 0.300-0.260 OD450nm
Mean value: 0.280 OD450nm
Within the range PC ≤ OD450nm < (NC+PC)/5 – Accepted

Sample 1: 0.020 OD450nm
Sample 2: 1.900 OD450nm
Sample 1 Co/S > 1.1 positive
Sample 2 Co/S < 0.9 negative

R. PERFORMANCES

Evaluation of Performances has been conducted in accordance to what reported in the Common Technical Specifications or CTS (art. 5, Chapter 3 of IVD Directive 98/79/EC).

1. LIMIT OF DETECTION:

In absence of an international standard, the sensitivity of the assay has been calculated by means of the product named Accurun n° 127 supplied by Boston Biomedica Inc. – USA .

The table below reports the OD450nm shown by this preparation when diluted in Fetal Calf Serum to prepare a limiting dilution curve, in three different lots.

Co/S values

	DAB.CE	Lot # 1102	DAB.CE	Lot # 0103	DAB.CE	Lot # 0403
Accurun # 127	OD450 nm	Co/S value	OD450 nm	Co/S value	OD450 nm	Co/S value
1x	0.171	3.0	0.163	2.9	0.156	2.8
2x	0.167	2.7	0.176	2.6	0.179	2.5
4x	0.230	2.2	0.220	2.1	0.202	2.2
8x	0.298	1.7	0.285	1.6	0.271	1.6
16x	0.417	1.2	0.405	1.1	0.402	1.1
32x	0.514	1.0	0.490	0.9	0.482	0.9
64x	0.717	0.7	0.700	0.7	0.705	0.6
128x	1.063	0.5	1.006	0.5	1.015	0.4
CTRL (-)	2.484	//////////	2.261	//////////	2.114	//////////

2. DIAGNOSTIC SPECIFICITY AND SENSITIVITY

The diagnostic performances were evaluated in a clinical trial conducted by the Department of Gastro-Hepatology, Prof. M.Rizzetto, S.Giovanni Battista hospital, Torino, Italy, on more than 400 samples against a reference kit.
Negative, positive and potentially interfering samples were examined in the trial.
Both plasma, derived with different standard techniques of preparation (citrate, EDTA and heparin), and sera have been used to determine the specificity. No false reactivity due to the method of specimen preparation has been observed.
Results are briefly reported in the lables below:

Sensitivity	> 98 %
Specificity	> 98 %

3. PRECISION

The mean values obtained from a study conducted on two samples of different anti-HDV antibody reactivity, examined in 16 replicates in three separate runs for three lots of product, is reported below:

DAB.CE: lot #1102

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.342	2.428	2.433	2.401
Std.Deviation	0.113	0.106	0.122	0.114
CV %	4.8	4.4	5.0	4.7

Calibrator (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.296	0.289	0.285	0.291
Std.Deviation	0.023	0.027	0.025	0.025
CV %	7.7	9.3	9.1	8.7
Co/S	1.6	1.7	1.7	1.7

DAB.CE: lot #0103

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.208	2.237	2.245	2.230
Std.Deviation	0.105	0.108	0.108	0.107
CV %	4.7	4.8	4.8	4.8

HBcAb

Competitive Enzyme Immunoassay for the determination of antibodies to Hepatitis B core Antigen in human serum and plasma

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF. BCAB.CE
96 Tests

HBcAb

A. INTENDED USE

Competitive Enzyme ImmunoAssay (ELISA) for the determination of antibodies to Hepatitis B core Antigen in human plasma and sera.
The kit is intended for the screening of blood units and the follow-up of HBV-infected patients.
For "in vitro" diagnostic use only.

B. INTRODUCTION

The World Health Organization (WHO) defines Hepatitis B as follows:

"Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. Hepatitis means inflammation of the liver, and the most common cause is infection with one of 5 viruses, called hepatitis A,B,C,D, and E. All of these viruses can cause an acute disease with symptoms lasting several weeks including yellowing of the skin and eyes (jaundice); dark urine; extreme fatigue; nausea; vomiting and abdominal pain. It can take several months to a year to feel fit again. Hepatitis B virus can cause chronic infection in which the patient never gets rid of the virus and many years later develops cirrhosis of the liver or liver cancer.

HBV is the most serious type of viral hepatitis and the only type causing chronic hepatitis for which a vaccine is available. Hepatitis B virus is transmitted by contact with blood or body fluids of an infected person in the same way as human immunodeficiency virus (HIV), the virus that causes AIDS. However, HBV is 50 to 100 times more infectious than HIV. The main ways of getting infected with HBV are: (a) perinatal (from mother to baby at the birth); (b) child- to-child transmission; (c) unsafe injections and transfusions; (d) sexual contact.

Worldwide, most infections occur from infected mother to child, from child to child contact in household settings, and from reuse of un-sterilized needles and syringes. In many developing countries, almost all children become infected with the virus. In many industrialized countries (e.g. Western Europe and North America), the pattern of transmission is different. In these countries, mother-to-infant and child-to-child transmission accounted for up to one third of chronic infections before childhood hepatitis B vaccination programmes were implemented. However, the majority of infections in these countries are acquired during young adulthood by sexual activity, and injecting drug use. In addition, hepatitis B virus is the major infectious occupational hazard of health workers, and most health care workers have received hepatitis B vaccine.

Hepatitis B virus is not spread by contaminated food or water, and cannot be spread casually in the workplace. High rates of chronic HBV infection are also found in the southern parts of Eastern and Central Europe. In the Middle East and Indian sub-continent, about 5% are chronically infected. Infection is less common in Western Europe and North America, where less than 1% are chronically infected.

Young children who become infected with HBV are the most likely to develop chronic infection. About 90% of infants infected during the first year of life and 30% to 50% of children infected between 1 to 4 years of age develop chronic infection. The risk of death from HBV-related liver cancer or cirrhosis is approximately 25% for persons who become chronically infected during childhood.

Chronic hepatitis B in some patients is treated with drugs called *interferon or lamivudine*, which can help some patients. Patients with cirrhosis are sometimes given liver transplants, with varying success. It is preferable to prevent this disease with vaccine than to try and cure it.

Hepatitis B vaccine has an outstanding record of safety and effectiveness. Since 1982, over one billion doses of hepatitis B vaccine have been used worldwide. The vaccine is given as a series of three intramuscular doses. Studies have shown that the vaccine is 95% effective in preventing children and adults from developing chronic infection if they have not yet been infected. In many countries where 8% to 15% of children used to become chronically infected with HBV, the rate of chronic infection has been reduced to less than 1% in immunized groups of children. Since 1991, WHO has called for all countries to add hepatitis B vaccine into their national immunization programmes."

Hepatitis B core Antigen (or HBcAg) is the major component of the core particles of HBV.
HBcAg is composed of a single polypeptide of about 17 kD that is released upon disaggregating the core particles; the antigen contains at least one immunological determinant.
Upon primary infection, anti HBcAg antibodies are one of the first markers of HBV hepatitis appearing in the serum of the patient, slightly later than HBsAg, the viral surface antigen.
Anti HBcAg antibodies are produced usually at high titers and their presence is detectable even years after infection. Isolated HBcAb, in absence of other HBV markers, have been observed in infected blood units, suggesting the use of this test for screening HBV, in addition of HBsAg.
The determination of HBcAb has become important for the classification of the viral agent, together with the detection of the other markers of HBV infection, in sera and plasma.

C. PRINCIPLE OF THE TEST

The assay is based on the principle of competition where the antibodies in the sample compete with a monoclonal antibody for a fixed amount of antigen on the solid phase.
A purified recombinant HBcAg is coated to the microwells.
The patient's serum/plasma is added to the microwell together with an additive able to block interferences present in the sample.
In the second incubation after washing, a monoclonal antibody, conjugated with Horseradish Peroxidase (HRP) and specific for HBcAg is added and binds to the free rec-HBcAg coated on the plastic.
After incubation, microwells are washed to remove any unbound conjugate and then the chromogen/substrate is added. In the presence of peroxidase enzyme the colorless substrate is hydrolyzed to a colored end-product.
The color intensity is inversely proportional to the amount of antibodies to HBcAg present in the sample.

D. COMPONENTS

Each kit contains sufficient reagents to perform 96 tests.

1. Microplate MICROPLATE
8x12 microwell strips coated with recombinant HBcAg and sealed into a bag with desiccant. Allow the microplate to reach room temperature before opening; reseal unused strips in the bag with desiccant and store at 2..8°C.

2. Negative Control CONTROL -
1x1.0ml/vial. Ready to use. Contains 5% bovine serum albumin, 10 mM phosphate buffer pH 7.4 +/-0.1, 0.09% sodium azide and 0.1% Kathon GC as preservatives. The negative control is pale yellow color coded.

3. Positive Control CONTROL +
1x1.0ml/vial. Ready to use. Contains 5% bovine serum albumin, anti HBcAg antibodies at a concentration of about 10 PEI U/ml, (calibrated on PEI HBc Reference Material 82), 10 mM phosphate buffer pH 7.4 +/-0.1, 0.09% sodium azide and 0.1% Kathon GC as preservatives. The positive control is green color coded.

4. Calibrator CAL ...
n°1 vial. Lyophilised. To be dissolved with EIA grade water as reported in the label. Contains fetal bovine serum, human antibodies to HBcAg at a concentration of 2 PEI U/ml +/-10% (calibrated on PEI HBc Reference Material 82) and 0.1% Kathon GC as preservative.
Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label.

5. Wash buffer concentrate WASHBUF 20X
1x60ml/bottle. 20x concentrated solution.
Once diluted, the wash solution contains 10 mM phosphate buffer pH 7.0+/-0.2, 0.05% Tween 20 and 0.1% Kathon GC.

6. Enzyme Conjugate CONJ
1x16ml/vial. Ready-to-use solution. Contains 5% bovine serum albumine, 10 mM tris buffer pH 6.8 +/-0.1, Horseradish peroxidase conjugated mouse monoclonal antibody to HBcAg in presence of 0.3 mg/ml gentamicine sulphate and 0.1% Kathon GC as preservatives. The component is red colour coded .

7. Chromogen/Substrate SUBS TMB
1x16ml/vial. Contains a 50 mM citrate-phosphate buffered solution at pH 3.6 +/-0.1, 0.03% tetra-methyl-benzidine (TMB), 0.02% hydrogen peroxide (H_2O_2) and 4% dimethylsulphoxide
Note: To be stored protected from light as sensitive to strong illumination.

8. Specimen Diluent DILSPE
4x3ml/vial. 10 mM tris buffered solution pH 8.0 +/-0.1 containing 0.1% Kathon GC for the pre-treatment of samples and controls in the plate, blocking interference.
Note: Use all the content of one vial before opening a second one. The reagent is sensitive to oxidation.

9. Sulphuric Acid H_2SO_4 0.3 M
1x15ml/vial. Contains 0.3 M H_2SO_4 solution.
Attention: Irritant (Xi R36/38; S2/26/30)

10. Plate sealing foil n°2

11. Instruction manual n°1

E. MATERIALS REQUIRED BUT NOT PROVIDED

1. Calibrated Micropipettes (100ul and 50ul) and disposable plastic tips.
2. EIA grade water (double distilled or deionised, charcoal treated to remove oxidizing chemicals used as disinfectants).
3. Timer with 60 minute range or higher.
4. Absorbent paper tissues.
5. Calibrated ELISA microplate thermostatic incubator (dry or wet) set at +37°C.
6. Calibrated ELISA microwell reader with 450nm (reading) and with 620-630nm (blanking) filters.
7. Calibrated ELISA microplate washer.
8. Vortex or similar mixing tools.

F. WARNINGS AND PRECAUTIONS

1. The kit has to be used by skilled and properly trained technical personnel only, under the supervision of a medical doctor responsible of the laboratory.
2. When the kit is used for the screening of blood units and blood components, it has to be used in a laboratory certified and qualified by the national authority in that field (Ministry of Health or similar entity) to carry out this type of analysis.
3. All the personnel involved in performing the assay have to wear protective laboratory clothes, talc-free gloves and glasses. The use of any sharp (needles) or cutting (blades) devices should be avoided. All the personnel involved should be trained in biosafety procedures, as recommended by the Center for Disease Control, Atlanta, U.S. and reported in the National Institute of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
4. All the personnel involved in sample handling should be vaccinated for HBV and HAV, for which vaccines are available, safe and effective.
5. The laboratory environment should be controlled so as to avoid contaminants such as dust or air-born microbial agents, when opening kit vials and microplates and when performing the test. Protect the Chromogen (TMB) from strong light and avoid vibration of the bench surface where the test is undertaken.
6. Upon receipt, store the kit at 2-8°C into a temperature controlled refrigerator or cold room.
7. Do not interchange components between different lots of the kits. It is recommended that components between two kits of the same lot should not be interchanged.
8. Check that the reagents are clear and do not contain visible heavy particles or aggregates. If not, advise the laboratory supervisor to initiate the necessary procedures.
9. Avoid cross-contamination between serum/plasma samples by using disposable tips and changing them after each sample.
10. Avoid cross-contamination between kit reagents by using disposable tips and changing them between the use of each one.
11. Do not use the kit after the expiration date stated on external (primary container) and internal (vials) labels.
12. Treat all specimens as potentially infective. All human serum specimens should be handled at Biosafety Level 2, as recommended by the Center for Disease Control, Atlanta, U.S. in compliance with what reported in the Institutes of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
13. The use of disposable plastic-ware is recommended in the preparation of the washing solution or in transferring components into other containers of automated workstations, in order to avoid contamination.
14. Waste produced during the use of the kit has to be discarded in compliance with national directives and laws concerning laboratory waste of chemical and biological substances. In particular, liquid waste generated from the washing procedure, from residuals of controls and from samples has to be treated as potentially infective material and inactivated. Suggested procedures of inactivation are treatment with a 10% final concentration of household bleach for 18-18 hrs or heat inactivation by autoclave at 121°C for 20 min.
15. Accidental spills have to be adsorbed with paper tissues soaked with household bleach and then with water. Tissues should then be discarded in proper containers designated for laboratory/hospital waste.
16. The Sulphuric Acid is an irritant. In case of spills, wash the surface with plenty of water.
17. Other waste materials generated from the use of the kit (example: tips used for samples and controls, used microplates) should be handled as potentially infective and disposed according to national directives and laws concerning laboratory wastes.

G. SPECIMEN: PREPARATION AND RECOMMANDATIONS

1. Blood is drawn aseptically by venepuncture and plasma or serum is prepared using standard techniques of preparation of samples for clinical laboratory analysis. No influence has been observed in the preparation of the sample with citrate, EDTA and heparin.
2. Avoid any addition of preservatives to samples; especially sodium azide as this chemical would affect the enzymatic activity of the conjugate.
3. Samples have to be clearly identified with codes or names in order to avoid misinterpretation of results. When the kit is used for the screening of blood units, bar code labeling and electronic reading is strongly recommended.
4. Haemolysed (red) and visibly hyperlipemic ("milky") samples have to be discarded as they could generate false results. Samples containing residues of fibrin or heavy particles or microbial filaments and bodies should be discarded as they could give rise to false results.
5. Sera and plasma can be stored at +2°..8°C for up to five days after collection. For longer storage periods, samples can be stored frozen at –20°C for several months. Any frozen samples should not be frozen/thawed more than once as this may generate particles that could affect the test result.
6. If particles are present, centrifuge at 2,000 rpm for 20 min or filter using 0.2-0.8u filters to clean up the sample for testing.

H. PREPARATION OF COMPONENTS AND WARNINGS

A study conducted on an opened kit has not pointed out any relevant loss of activity up to 6 re-uses of the device and up to 6 months.

1. Microplates:
Allow the microplate to reach room temperature (about 1 hr) before opening the container. Check that the desiccant has not turned dark green, indicating a defect in storage.
In this case, call Dia.Pro's customer service.
Unused strips have to be placed back inside the aluminum pouch, with the desiccant supplied, firmly zipped and stored at +2°..8°C. After first opening, remaining strips are stable until the humidity indicator inside the desiccant bag turns from yellow to green.

2. Negative Control:
Ready to use. Mix well on vortex before use.

3. Positive Control:
Ready to use. Mix well on vortex before use.

4. Calibrator:
Add the volume of ELISA grade water, reported on the label, to the lyophilised powder; let fully dissolve and then gently mix on vortex.
Note: The dissolved calibrator is not stable. Store it frozen in aliquots at –20°C.

5. Wash buffer concentrate:
The whole content of the concentrated solution has to be diluted 20x with bidistilled water and mixed gently end-over-end before use. During preparation avoid foaming as the presence of bubbles could impact on the efficiency of the washing cycles.
Note: *Once diluted, the wash solution is stable for 1 week at +2..8°C.*

6. Enzyme conjugate:
Ready to use. Mix well on vortex before use.
Avoid contamination of the liquid with oxidizing chemicals, dust or microbes. If this component has to be transferred, use only plastic, and if possible, sterile disposable containers.

7. Chromogen/Substrate:
Ready to use. Mix well on vortex before use.
Avoid contamination of the liquid with oxidizing chemicals, air-driven dust or microbes. Do not expose to strong light, oxidizing agents and metallic surfaces.
If this component has to be transferred use only plastic, and if possible, sterile disposable container.

8. Specimen Diluent
Ready to use solution. Mix gently on vortex before use. Use all the content of one vial before opening a second one. The reagent is sensitive to oxidation.

9. Sulphuric Acid:
Ready to use. Mix well on vortex before use.
Attention: Irritant (Xi R36/38; S2/26/30)
Legenda: R 36/38 = Irritating to eyes and skin.
S 2/26/30 = In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

I. INSTRUMENTS AND TOOLS USED IN COMBINATION WITH THE KIT

1. Micropipettes have to be calibrated to deliver the correct volume required by the assay and must be submitted to regular decontamination (70% ethanol, 10% solution of bleach, hospital grade disinfectants) of those parts that could accidentally come in contact with the sample or the components of the kit. They should also be regularly maintained in order to show a precision of 1% and a trueness of ±2%.
2. The ELISA incubator has to be set at +37°C (tolerance of ±0.5°C) and regularly checked to ensure the correct temperature is maintained. Both dry incubators and water baths are suitable for the incubations, provided that the instrument is validated for the incubation of ELISA tests.
3. The ELISA washer is extremely important to the overall performances of the assay. The washer must be carefully validated and correctly optimized using the kit controls/calibrator and reference panels, before using the kit for routine laboratory tests. Usually 4-5 washing cycles (aspiration + dispensation of 350 ul/well of washing solution = 1 cycle) are sufficient to ensure that the assay performs as expected. A soaking time of 20-30 seconds between cycles is suggested. In order to set correctly their number, it is recommended to run an assay with the kit controls/calibrator and well characterized negative and positive reference samples, and check to match the values reported below in the sections "Validation of Test" and "Assay Performances". Regular calibration of the volumes delivered and maintenance (decontamination and cleaning of needles) of the washer has to be carried out according to the instructions of the manufacturer.
4. Incubation times have a tolerance of ±5%.
5. The ELISA microplate reader has to be equipped with a reading filter of 450nm and with a second filter (620-630nm, strongly recommended) for blanking purposes. Its standard performances should be (a) bandwidth ≤ 10 nm; (b) absorbance range from 0 to ≥ 2.0; (c) linearity to ≥ 2.0; repeatability ≥ 1%. Blanking is carried out on the well identified in the section "Assay Procedure". The optical system of the reader has to be calibrated regularly to ensure that the correct optical density is measured. It should be regularly maintained according to the manufacturer 's instructions.

6. When using an ELISA automated work station, all critical steps (dispensation, incubation, washing, reading, shaking, data handling) have to be carefully set, calibrated, controlled and regularly serviced in order to match the values reported in the sections "Validation of Test" and "Assay Performances". The assay protocol has to be installed in the operating system of the unit and validated as for the washer and the reader. In addition, the liquid handling part of the station (dispensation and washing) has to be validated and correctly set. Particular attention must be paid to avoid carry over by the needles used for dispensing samples and for washing. This must be studied and controlled to minimize the possibility of contamination of adjacent wells due to strongly reactive samples, leading to false positive results. The use of ELISA automated work stations is recommended for blood screening and when the number of samples to be tested exceed 20-30 units per run.
7. Dia.Pro's customer service offers support to the user in the setting and checking of instruments used in combination with the kit, in order to assure full compliance with the requirements described. Support is also provided for the installation of new instruments to be used with the kit.

L. PRE ASSAY CONTROLS AND OPERATIONS

1. Check the expiration date of the kit printed on the external label (primary container). Do not use if expired.
2. Check that the liquid components are not contaminated by visible particles or aggregates. Check that the Chromogen (TMB) is colourless or pale blue by aspirating a small volume of it with a sterile plastic pipette. Check that no breakage occurred in transportation and no spillage of liquid is present inside the box (primary container). Check that the aluminium pouch, containing the microplate, is not punctured or damaged.
3. Dilute all the content of the 20x concentrated Wash Solution as described above.
4. Dissolve the Calibrator as described above and gently mix.
5. Allow all the other components to reach room temperature (about 1 hr) and then mix gently on vortex all liquid reagents.
6. Set the ELISA incubator at +37°C and prepare the ELISA washer by priming with the diluted washing solution, according to the manufacturers instructions. Set the right number of washing cycles as found in the validation of the instrument for its use with the kit.
7. Check that the ELISA reader is turned on or ensure it will be turned on at least 20 minutes before reading.
8. If using an automated work station, turn on, check settings and be sure to use the right assay protocol.
9. Check that the micropipettes are set to the required volume.
10. Check that all the other equipment is available and ready to use.
11. In case of problems, do not proceed further with the test and advise the supervisor.

M. ASSAY PROCEDURE

The assay has to be performed according to the procedure given below, taking care to maintain the same incubation time for all the samples being tested.

1. Place the required number of strips in the plastic holder and carefully identify the wells for controls, calibrator and samples.
2. Leave the A1 well empty for blanking purposes.
3. Dispense 50 ul Specimen Diluent into all the control and sample wells.
4. Pipette 50 µl of the Negative Control in triplicate, 50 ul of the Calibrator in duplicate and then 50 ul of the Positive Control in single. Then dispense 50 ul of each of the samples.
5. Incubate the microplate for **60 min at +37°C.**

Important note: *Strips have to be sealed with the adhesive sealing foil, only when the test is performed manually. Do not cover strips when using ELISA automatic instruments.*

6. When the first incubation is finished, wash the microwells as previously described (section I.3)
7. Pipette 100 µl Enzyme Conjugate in all the wells, except A1; incubate the microplate for **60 min at +37°C.**

Important note: *Be careful not to touch the plastic inner surface of the well with the tip filled with the Enzyme Conjugate. Contamination might occur.*

8. When the second incubation is finished, wash the microwells as previously described (section I.3)
9. Pipette 100 µl Chromogen/Substrate into all the wells, A1 included.

Important note: *Do not expose to strong direct light. as a high background might be generated.*

10. Incubate the microplate protected from light at **room temperature (18-24°C) for 20 minutes**. Wells dispensed with negative control and negative samples will turn from clear to blue (competitive method).
11. Pipette 100 µl Sulphuric Acid into all the wells using the same pipetting sequence as in step 9 to stop the enzymatic reaction. Addition of the stop solution will turn the negative control and negative samples from blue to yellow.
12. Measure the colour intensity of the solution in each well, as described in section I.5 using a 450nm filter (reading) and a 620-630nm filter (background subtraction, strongly recommended), blanking the instrument on A1.

Important notes:

1. *If the second filter is not available, ensure that no finger prints are present on the bottom of the microwell before reading at 450nm. Finger prints could generate false positive results on reading.*
2. *Reading has should ideally be performed immediately after the addition of the Stop Solution but definitely no longer than 20 minutes afterwards. Some self oxidation of the chromogen can occur leading to a higher background.*

N. ASSAY SCHEME

Specimen Diluent	50 ul
Controls&calibrator and samples	50 ul
1st incubation	**60 min**
Temperature	+37°C
Wash	n°4-5
Enzyme Conjugate	100 ul
2nd incubation	**60 min**
Temperature	+37°C
Wash	n°4-5
TMB/H2O2 mix	100 ul
3rd incubation	**20 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm

An example of dispensation scheme is reported below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S2										
B	NC	S3										
C	NC	S4										
D	NC	S5										
E	CAL	S6										
F	CAL	S7										
G	PC	S8										
H	S1	S9										

Legenda: BLK = Blank NC = Negative Control
CAL = Calibrator PC = Positive Control S = Sample

O. INTERNAL QUALITY CONTROL

A check is performed on the controls/calibrator any time the kit is used in order to verify whether the expected OD450nm or Co/S values have been matched in the analysis.
Ensure that the following parameters are met:

Parameter	Requirements
Blank well	< 0.050 OD450nm value
Negative Control (NC)	> 1.000 OD450nm after blanking coefficient of variation < 20%
Calibrator (about 2 PEI U/ml)	Co/S > 1
Positive Control	< 0.200 OD450nm

If the results of the test match the requirements stated above, proceed to the next section.

If they do not, do not proceed any further and perform the following checks:

Problem	Check
Blank well > 0.050 OD450nm	that the Chromogen/Substrate solution has not become contaminated during the assay
Negative Control (NC) < 1.000 OD450nm after blanking coefficient of variation > 20%	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (dispensation of positive control instead of negative control; 4. that no contamination of the negative control or of the wells where the control was dispensed has occurred due to positive samples, to spills or to the enzyme conjugate; 5. that micropipettes have not become contaminated with positive samples or with the enzyme conjugate 6. that the washer needles are not blocked or partially obstructed.
Calibrator Co/S < 1	1. that the procedure has been correctly performed; 2. that no mistake has occurred during its distribution (ex.: dispensation of negative control instead 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the calibrator has occurred.
Positive Control > 0.200 OD450nm	1. that the procedure has been correctly performed; 2. that no mistake has occurred during the distribution of the control (dispensation of negative control instead of positive control); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the positive control has occurred.

If any of the above problems have occurred, report the problem to the supervisor for further actions.

P. RESULTS

The results are calculated by means of a cut-off value determined with the following formula:

Cut-Off = (NC + PC) / 5

Important note: *When the calculation of results is performed by the operating system of an ELISA automated work station, ensure that the proper formulation is used to calculate the cut-off value and generate the correct interpretation of results.*

Q. INTERPRETATION OF RESULTS

Results are interpreted as ratio between the cut-off value and the sample OD450nm or Co/S.

Results are interpreted according to the following table:

Co/S	Interpretation
< 0.9	Negative
0.9 - 1.1	Equivocal
> 1.1	Positive

A negative result indicates that the patient has not been infected by HBV.
Any patient showing an equivocal result should be re-tested on a second sample taken 1-2 weeks after the initial sample.
The blood unit should not be transfused.
A positive result is indicative of HBV infection and therefore the patient should be treated accordingly or the blood unit should be discarded.

Important notes:

1. *Interpretation of results should be done under the supervision of the laboratory supervisor to reduce the risk of judgement errors and misinterpretations.*
2. *When test results are transmitted from the laboratory to another facility, attention must be paid to avoid erroneous data transfer.*
3. *Diagnosis of viral hepatitis infection has to be taken by and released to the patient by a suitably qualified medical doctor.*

An example of calculation is reported below.

The following data must not be used instead or real figures obtained by the user.

Negative Control: 2.000 – 2.200 – 2.000 OD450nm
Mean Value: 2.100 OD450nm
Higher than 1.000 – Accepted

Positive Control: 0.100 OD450nm
Lower than 0.200 – Accepted

Cut-Off = (2.100 + 0.100) / 5 = 0.440

Calibrator: 0.400-0.360 OD450nm
Mean value: 0.380 OD450nm
Co/S>1 – Accepted

Sample 1: 0.028 OD450nm
Sample 2: 1.890 OD450nm
Sample 1 Co/S > 1.1 positive
Sample 2 Co/S < 0.9 negative

R. PERFORMANCES

Evaluation of Performances has been conducted in accordance to what reported in the Common Technical Specifications or CTS (art. 5, Chapter 3 of IVD Directive 98/79/EC).

1. LIMIT OF DETECTION:

The sensitivity of the assay has been calculated by means of the reference preparation for HBcAb supplied by Paul Erlich Institute (PEI HBc Reference Material 82). The assay shows a sensitivity of about 1.25 PEI U/ml.
The table below reports the Co/S values shown by the PEI standard diluted as suggested by the manufacturer to prepare a limiting dilution curve in Fetal Calf Serum (FCS).

PEI U/ml	Lot 1001	Lot 0702	Lot 0702/2	Lot 1202
5	22.6	18.0	19.0	17.7
2.5	8.0	5.5	5.4	5.0
1.25	1.1	1.3	1.0	1.0
0.625	0.4	0.4	0.4	0.4

In addition Accurun 1 – series 3000 – supplied by Boston Biomedica Inc., USA, was tested to determine its Co/S value. Results are reported in the table below:

Accurun 1 – series 3000

Value	Lot 1001	Lot 0702	Lot 1202
Co/S	2.9	2.3	2.2

2. DIAGNOSTIC SPECIFICITY AND SENSITIVITY

The Performance Evaluation of the device was carried out in a trial conducted on more than total 6000 samples.

2.1 Diagnostic Specificity

It is defined as the probability of the assay of scoring negative in the absence of specific analyte. A total of more 5000 unselected donors, including 1st time donors, were examined.
In a first study 2023 samples were tested against a US company as reference. A specificity of 99.5% was found. In a second study 1588 samples were examined against a European company. A specificity of 99.7% was found. In the last study 1565 samples were assayed against the same US company; a value of 99.8% was found.
In addition to the above population, 206 samples from hospitalized patients were tested against the European company. A value of 99.3% specificity was found.
Moreover, diagnostic specificity was assessed by testing 164 potentially interfering specimens (other infectious diseases, patients affected by non viral hepatic diseases, dialysis patients, pregnant women, hemolized, lipemic, etc.) against the European company. A value of specificity of 100% was assessed.
Finally, both human plasma, derived with different standard techniques of preparation (citrate, EDTA and heparin), and human sera have been used to determine the specificity.
No false reactivity due to the method of specimen preparation has been observed.

2.2 Diagnostic Sensitivity

It defined as the probability of the assay of scoring positive in the presence of specific analyte.
373 positive specimens were tested against the European company; a diagnostic sensitivity of 99,7 was found.

3. PRECISION

The mean values obtained from a study conducted on three lots and on two samples of different anti-HBcAg reactivity, examined in 16 replicates in three separate runs is reported below:

BCAB.CE: lot # 1202

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	1.943	1.939	1.924	1.935
Std.Deviation	0.081	0.076	0.103	0.087
CV %	4.2	4.0	5.3	4.5

Calibrator (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.143	0.147	0.148	0.146
Std.Deviation	0.014	0.017	0.018	0.016
CV %	9.8	11.4	12.1	11.1
Co/S	2.8	2.7	2.6	2.7

BCAB.CE: lot # 0702

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.163	2.110	2.106	2.126
Std.Deviation	0.105	0.088	0.139	0.111
CV %	4.9	4.2	6.6	5.2

Calibrator (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.182	0.193	0.195	0.190
Std.Deviation	0.018	0.023	0.019	0.020
CV %	10.0	12.0	9.9	10.6
Co/S	2.5	2.2	2.3	2.3

BCAB.CE: lot # 0702/2

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.278	2.098	2.130	2.169
Std.Deviation	0.135	0.126	0.159	0.140
CV %	5.9	6.0	7.5	6.5

Calibrator (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.193	0.190	0.199	0.134
Std.Deviation	0.023	0.023	0.027	0.025
CV %	12.1	12.3	13.5	12.6
Co/S	2.4	2.2	2.2	2.3

The variability shown in the tables did not result in sample misclassification.

5. LIMITATIONS OF THE PROCEDURE

Bacterial contamination or heat inactivation of the specimen may affect the absorbance values of the samples with consequent alteration of the level of the analyte. This test is suitable only for testing single samples and not pooled ones.
Diagnosis of an infectious disease should not be established on the basis of a single test result. The patient's clinical history, symptomatology, as well as other diagnostic data should be considered.

REFERENCES

1. Aach R.D., Grisham J.W., Parker S.W.. Proc.Natl.Acad.Sci..USA, 68:1956, 1971.
2. Blumerg B.S., Suinick A.I., London W.T.. Hepatitis and leukemia: their relation to Australia antigen. Bull.N.Y.Acad.Med.. 44:1566, 1968.
3. Boniolo A., Dovis M., Matteja R.. J.Immunol.Meth.. 49:1, 1982.
4. Caldwell C.W., Barpet J.T.. Clin.Chim.Acta 81: 305, 1977
5. Fazekas S., De St.Groth, Scheidegger D.. J.Immunol.Meth.. 35: 1, 1980
6. Reesink H.W.. et al.. Vox.Sang., 39:61, 1980
7. Rook G.A.W.. Lepr.Rev. 52: 281, 1981
8. Schroder J.. Med.Biol.. 58: 281, 1981
9. Almeida J.D. et al.. Lancet, ii : 1225, 1971
10. Hoofnagle J.H. et al.. Lancet, ii: 869, 1973
11. Hoofnagle J.H. et al.. N.E.J.Med., 290: 1336, 1974
12. Katchaki J.N. et al.. J.Clin.Path., 31: 837, 1978
13. Szmuness W. et al.. Am.J.Epidem., 104 : 256, 1976
14. Grebenchtchikiov N. et al.. J.Immunol. Methods, 15(2) :219-231, 2002
15. Schrijver RS and Kramps JA, Rev.Sci.Tech. 17(2):550-561, 1998

All the IVD Products manufactured by the company are under the control of a certified Quality Management System approved by an EC Notified Body. Each lot is submitted to a quality control and released into the market only if conforming with the EC technical specifications and acceptance criteria.

Produced by
Dia.Pro Diagnostic Bioprobes Srl
Via G. Carducci n° 27 – Sesto San Giovanni (MI) – Italy

CE
0318

HBe Ag&Ab

Enzyme Immunoassay (ELISA) for the determination of Hepatitis B Virus "e" Antigen and Antibody in human plasma and sera.

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF. HBE.CE
96 Tests

HBe Ag&Ab

A. INTENDED USE

Enzyme ImmunoAssay (ELISA) for the determination of Hepatitis B Virus "e" Antigen and Antibody in human plasma and sera.
The kit is intended for the follow-up of acute infection and of chronic patients under therapy.
For "in vitro" diagnostic use only.

B. INTRODUCTION

Hepatitis B "e" Antigen or HBeAg is known to be intimately associated with Hepatitis B Virus or HBV replication and the presence of infectious Dane particles in the blood.
Recently, it has been found that HBeAg is a product of proteolytic degradation of Hepatitis B core Antigen or HBcAg, occurring in hepatocites, whose expression is under the control of the precore region of HBV genome.
If HBeAg is considered a specific marker of infectivity, the presence of anti HBeAg antibodies in blood is recognised to be a clinical sign of recovery from infection to convalescence.
The determination of these two analytes in samples from HBV patients has become important for the classification of the phase of illness and as a prognostic value in the follow up of infected patients.

C. PRINCIPLE OF THE TEST

HBeAg:
HBeAg, if present in the sample, is captured by a specific monoclonal antibody, in the 1st incubation.
In the 2nd incubation, after washing, a tracer, composed of a mix of two specific anti HBeAg monoclonal antibodies, labeled with peroxidase (HRP), is added to the microplate and binds to the captured HBeAg.
The concentration of the bound enzyme on the solid phase is proportional to the amount of HBeAg in the sample and its activity is detected by adding the chromogen/substrate in the 3rd incubation.
The presence of HBeAg in the sample is determined by means of a cut-off value that allows for the semiquantitative detection of the antigen.

HBeAb
Anti HBeAg antibodies, if present in the sample, compete with a recombinant HBeAg preparation for a fixed amount of an anti HBeAg antibody, coated on the microplate wells.
The competitive assay is carried out in two incubations, the first with the sample and recHBeAg, and the second with a tracer, composed of two anti HBeAg monoclonal antibodies, labeled with peroxidase (HRP).
The concentration of the bound enzyme on the solid phase becomes inversely proportional to the amount of anti HBeAg antibodies in the sample and its activity is detected by adding the chromogen/substrate in the third incubation.
The concentration of HBeAg specific antibodies in the sample is determined by means of a cut-off value that allows for the semi quantitative detection of anti HBeAg antibodies.

D. COMPONENTS

The kit contains reagents for total 96 tests.

1. Microplate: MICROPLATE
n° 1 coated microplate
12 strips of 8 breakable wells coated with anti HBeAg specific monoclonal antibody, postcoated with bovine serum proteins and sealed into a bag with desiccant. Allow the microplate to reach room temperature before opening; reseal unused strips in the bag with desiccant and store at 2...8°C.

2. Negative Control: CONTROL -
1x2.0ml/vial. Ready to use control. It contains bovine serum, 0.09% sodium azide and 0.1% Kathon GC as preservatives.
The negative control is colorless.

3. Antigen Positive Control: CONTROL + Ag
1x1.0ml/vial. Ready to use control. It contains 2% bovine serum albumin, non infectious recombinant HBeAg, 100 mM tris buffer pH 7.4+/-0.1, 0.09% sodium azide and 0.1% Kathon GC as preservatives.
The positive control is green color coded.

4. Antibody Positive Control: : CONTROL + Ab
1x1.0ml/vial. Ready to use control. It contains 2% bovine serum albumin, human anti HbeAg positive plasma at about 10 PEI U/ml, 100 mM tris buffer pH 7.4+/-0.1, 0.09% sodium azide and 0.1% Kathon GC as preservatives. The label is red colored.
The positive control is yellow color coded.

5. Antigen Calibrator: CALAG ...ml
n° 1 vial. Lyophilised calibrator for HBeAg. To be dissolved with EIA grade water as reported in the label. It contains fetal bovine serum, non infectious recombinant HBeAg at 1 PEI U/ml +/-10%, 0.02% gentamicine sulphate and 0.1% Kathon GC as preservatives.
Important Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label.

6. Antibody Calibrator: CALAB ...ml
n° 1 vial. Lyophilized calibrator for anti HBeAg antibody. To be dissolved with EIA grade water as reported in the label. It contains fetal bovine serum, positive plasma at 0.25 PEI U/ml +/-10%, 0.02% gentamicine sulphate and 0.1% Kathon GC as preservatives. The label is red colored.
Important Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label.

7. Wash buffer concentrate: WASHBUF 20X
1x60ml/bottle. 20x concentrated solution.
Once diluted, the wash solution contains 10 mM phosphate buffer pH 7.0+/-0.2, 0.05% Tween 20 and 0.1% Kathon GC.

8. Enzyme conjugate: CONJ
1x16ml/vial. Ready to use conjugate. It contains Horseradish peroxidase conjugated with a mix of monoclonal antibodies to HBeAg, 10 mM Tris buffer pH 6.8+/-0.1, 2% BSA, 0.1% Kathon GC and 0.02% gentamicine sulphate as preservatives.
The reagent is red color coded.

9. HBe Antigen: Ag-HBe
1x10ml/vial. Ready to use reagent. It contains recombinant HBeAg, fetal bovine serum, buffered solution pH 8.0+/-0.1, 0.1% Kathon GC and 0.09% sodium azide as preservatives.
The reagent is blue color coded.

10. Chromogen/Substrate: SUBS TMB
1x16ml/vial. Ready-to-use component. It contains a 50 mM citrate-phosphate buffered solution at pH 3.5-3.8, 4% dimethylsulphoxide, 0.03% tetra-methyl-benzidine or TMB and 0.02% hydrogen peroxide or H_2O_2.
Note: To be stored protected from light as sensitive to strong illumination.

11. Sulphuric Acid: H_2SO_4 0.3 M
1x15ml/vial. It contains 0.3 M H_2SO_4 solution.
Attention: Irritant (H315, H319; P280, P302+P352, P332+P313, P305+P351+P338, P337+P313, P362+P363).

12. Plate sealing foils n°2

13. Package insert n°1

E. MATERIALS REQUIRED BUT NOT PROVIDED

1. Calibrated Micropipettes (150ul, 100ul and 50ul) and disposable plastic tips.
2. EIA grade water (double distilled or deionised, charcoal treated to remove oxidizing chemicals used as disinfectants).
3. Timer with 60 minute range or higher.
4. Absorbent paper tissues.
5. Calibrated ELISA microplate thermostatic incubator (dry or wet) set at +37°C.
6. Calibrated ELISA microwell reader with 450nm (reading) and with 620-630nm (blanking) filters.
7. Calibrated ELISA microplate washer.
8. Vortex or similar mixing tools.

F. WARNINGS AND PRECAUTIONS

1. The kit has to be used by skilled and properly trained technical personnel only, under the supervision of a medical doctor responsible of the laboratory.
2. All the personnel involved in performing the assay have to wear protective laboratory clothes, talc-free gloves and glasses. The use of any sharp (needles) or cutting (blades) devices should be avoided. All the personnel involved should be trained in biosafety procedures, as recommended by the Center for Disease Control, Atlanta, U.S. and reported in the National Institute of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
3. All the personnel involved in sample handling should be vaccinated for HBV and HAV, for which vaccines are available, safe and effective.
4. The laboratory environment should be controlled so as to avoid contaminants such as dust or air-born microbial agents, when opening kit vials and microplates and when performing the test. Protect the Chromogen/Substrate (TMB) from strong light and avoid vibration of the bench surface where the test is undertaken.
5. Upon receipt, store the kit at 2-8°C into a temperature controlled refrigerator or cold room.
6. Do not interchange components between different lots of the kits. It is recommended that components between two kits of the same lot should not be interchanged.
7. Check that the reagents are clear and do not contain visible heavy particles or aggregates. If not, advise the laboratory supervisor to initiate the necessary procedures.
8. Avoid cross-contamination between serum/plasma samples by using disposable tips and changing them after each sample.
9. Avoid cross-contamination between kit reagents by using disposable tips and changing them between the use of each one.
10. Do not use the kit after the expiration date stated on external (primary container) and internal (vials) labels.
11. Treat all specimens as potentially infective. All human serum specimens should be handled at Biosafety Level 2, as recommended by the Center for Disease Control, Atlanta, U.S. in compliance with what reported in the Institutes of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
12. The use of disposable plastic-ware is recommended in the preparation of the washing solution or in transferring components into other containers of automated workstations, in order to avoid contamination.
13. Waste produced during the use of the kit has to be discarded in compliance with national directives and laws concerning laboratory waste of chemical and biological substances. In particular, liquid waste generated from the washing procedure, from residuals of controls and from samples has to be treated as potentially infective material and inactivated. Suggested procedures of inactivation are treatment with a 10% final concentration of household bleach for 16-18 hrs or heat inactivation by autoclave at 121°C for 20 min.,
14. Accidental spills have to be adsorbed with paper tissues soaked with household bleach and then with water. Tissues should then be discarded in proper containers designated for laboratory/hospital waste.
15. The Stop Solution is an irritant. In case of spills, wash the surface with plenty of water
16. Other waste materials generated from the use of the kit (example: tips used for samples and controls, used microplates) should be handled as potentially infective and disposed according to national directives and laws concerning laboratory wastes.

G. SPECIMEN: PREPARATION AND RECOMMANDATIONS

1. Blood is drawn aseptically by venepuncture and plasma or serum is prepared using standard techniques of preparation of samples for clinical laboratory analysis. No influence has been observed in the preparation of the sample with citrate, EDTA and heparin.
2. Avoid any addition of preservatives; especially sodium azide as this chemical would affect the enzymatic activity of the conjugate, generating false negative results.
3. Samples have to be clearly identified with codes or names in order to avoid misinterpretation of results.
4. Haemolysed and visibly hyperlipemic ("milky") samples have to be discarded as they could generate false results. Samples containing residues of fibrin or heavy particles or microbial filaments and bodies should be discarded as they could give rise to false results.
5. Sera and plasma can be stored at +2°...8°C for up to five days after collection. For longer storage periods, samples can be stored frozen at –20°C for several months. Any frozen samples should not be freeze/thawed more than once as this may generate particles that could affect the test result.
6. If particles are present, centrifuge at 2.000 rpm for 20 min or filter using 0.2-0.8u filters to clean up the sample for testing.

H. PREPARATION OF COMPONENTS AND WARNINGS

A study conducted on an opened kit has not pointed out any relevant loss of activity up to 6 re-uses of the device and up to 3 months.

1. Microplate:
Allow the microplate to reach room temperature (about 1 hr) before opening the container. Check that the desiccant has not turned dark green, indicating a defect in manufacturing.
In this case, call Dia.Pro's customer service.
Unused strips have to be placed back into the aluminum pouch, with the desiccant supplied, firmly zipped and stored at +2°-8°C.
When opened the first time, unused strips are stable until the humidity indicator inside the desiccant bag turns from yellow to green.

2. Negative Control:
Ready to use. Mix well on vortex before use.

3. Antigen Positive Control:
Ready to use. Mix well on vortex before use.

4. Antibody Positive Control:
Ready to use. Mix well on vortex before use.

5. Antigen Calibrator:
Add the volume of ELISA grade water, reported on the label, to the lyophilized powder; let fully dissolve and then gently mix on vortex.
Note: The dissolved calibrator is not stable. Store it frozen in aliquots at –20°C.

6. Antibody Calibrator:
Add the volume of ELISA grade water, reported on the label, to the lyophilized powder; let fully dissolve and then gently mix on vortex.
Note: The dissolved calibrator is not stable. Store it frozen in aliquots at –20°C.

7. Wash buffer concentrate:
The whole content of the 20x concentrated solution has to be diluted with bidistilled water up to 1200 ml and mixed gently end-over-end before use.
During preparation avoid foaming as the presence of bubbles could impact on the efficiency of the washing cycles.
Note: Once diluted, the wash solution is stable for 1 week at +2..8° C.

8. Enzyme conjugate:
Ready to use. Mix well on vortex before use.
Avoid contamination of the liquid with oxidizing chemicals, air-driven dust or microbes. If this component has to be transferred, use only plastic, and if possible, sterile disposable containers.

9. HBe Antigen:
Ready to use. Mix well on vortex before use.
Avoid contamination of the liquid with oxidizing chemicals, air-driven dust or microbes. If this component has to be transferred, use only plastic, and if possible, sterile disposable containers.

10. Chromogen/Substrate:
Ready to use. Mix well on vortex before use.
Avoid contamination of the liquid with oxidizing chemicals, air-driven dust or microbes. Do not expose to strong light, oxidizing agents and metallic surfaces.
If this component has to be transferred use only plastic, and if possible, sterile disposable container.

11. Sulphuric Acid:
Ready to use. Mix well on vortex before use.
Attention: Irritant (H315, H319; P280, P302+P352, P332+P313, P305+P351+P338, P337+P313, P362+P363).

Legenda:

Warning **H statements:**
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.

Precautionary **P statements:**
P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 – If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 – If eye irritation persists: Get medical advice/attention.
P362 + P363 – Take off contaminated clothing and wash it before reuse.

I. INSTRUMENTS AND TOOLS USED IN COMBINATION WITH THE KIT

1. Micropipettes have to be calibrated to deliver the correct volume required by the assay and must be submitted to regular decontamination (household alcohol, 10% solution of bleach, hospital grade disinfectants) of those parts that could accidentally come in contact with the sample. Decontamination of spills or residues of kit components should also be carried out regularly. They should also be regularly maintained in order to show a precision of 1% and a trueness of ±2%.
2. The ELISA incubator has to be set at +37°C (tolerance of +/-0.5°C) and regularly checked to ensure the correct temperature is maintained. Both dry incubators and water baths are suitable for the incubations, provided that the instrument is validated for the incubation of ELISA tests.
3. The ELISA washer is extremely important to the overall performances of the assay. The washer must be carefully validated and correctly optimized using the kit controls and reference panels, before using the kit for routine laboratory tests. 4-5 washing cycles (aspiration + dispensation of 350ul/well of washing solution = 1 cycle) are sufficient to ensure that the assay performs as expected. A soaking time of 20-30 seconds between cycles is suggested. In order to set correctly their number, it is recommended to run an assay with the kit controls and well characterized negative and positive reference samples, and check to match the values reported below in the section O "Internal Quality Control". Regular calibration of the volumes delivered by, and maintenance (decontamination and cleaning of needles) of the washer has to be carried out according to the instructions of the manufacturer.
4. Incubation times have a tolerance of ±5%.
5. The ELISA reader has to be equipped with a reading filter of 450nm and with a second filter (620-630nm, strongly recommended) for blanking purposes Blanking is carried out on the well identified in the section "Assay Procedure". The optical system of the reader has to be calibrated regularly to ensure the correct optical density is measured. It should be regularly maintained according to the manufacturer 's instructions.
6. When using an ELISA automated work station, all critical steps (dispensation, incubation, washing, reading, data handling) have to be carefully set, calibrated, controlled and regularly serviced in order to match the values reported in the section "Internal Quality Control". The assay protocol has to be installed in the operating system of the unit and validated as for the washer and the reader. In addition, the liquid handling part of the station (dispensation and washing) has to be validated and correctly set. Particular attention must be paid to avoid carry over by the needles used for dispensing and for washing. This must be studied and controlled to minimize the possibility of contamination of adjacent wells. The use of ELISA automated work stations is recommended when the number of samples to be tested exceed 20-30 units per run.
7. Dia.Pro's customer service offers support to the user in the setting and checking of instruments used in combination with the kit, in order to assure compliance with the requirements described. Support is also provided for the installation of new instruments to be used with the kit.

L. PRE ASSAY CONTROLS AND OPERATIONS

1. Check the expiration date of the kit printed on the external label (primary container). Do not use if expired.
2. Check that the liquid components are not contaminated by visible particles or aggregates. Check that the Chromogen/Substrate (TMB+H_2O_2) is colourless or pale blue by aspirating a small volume of it with a sterile plastic pipette. Check that no breakage occurred in transportation and no spillage of liquid is present inside the box (primary container). Check that the aluminium pouch, containing the microplate, is not punctured or damaged.
3. Dilute all the content of the 20x concentrated Wash Solution as described above.
4. Dissolve the Calibrator as described above and gently mix.
5. Allow all the other components to reach room temperature (about 1 hr) and then mix gently on vortex all liquid reagents.
6. Set the ELISA incubator at +37°C and prepare the ELISA washer by priming with the diluted washing solution, according to the manufacturers instructions. Set the right number of washing cycles as found in the validation of the instrument for its use with the kit.
7. Check that the ELISA reader is turned on or ensure it will be turned on at least 20 minutes before reading.
8. If using an automated work station, turn on, check settings and be sure to use the right assay protocol.
9. Check that the micropipettes are set to the required volume.
10. Check that all the other equipment is available and ready to use.

In case of problems, do not proceed further with the test and advise the supervisor.

M. ASSAY PROCEDURE

The assay has to be performed according to the procedure given below, taking care to maintain the same incubation time for all the samples being tested.

A) HBe Antigen:

1. Place the required number of strips in the plastic holder and carefully identify the wells for controls, calibrator and samples.
2. Leave the A1 well empty for blanking purposes.
3. Pipette 100 µl of the Negative Control in triplicate, 100 µl of the Antigen Calibrator in duplicate and then 100 µl of the Antigen Positive Control in single.
4. Then dispense 100 µl of samples in the proper wells.
5. Check for the presence of samples in wells by naked eye (there is a marked colour difference between empty and full wells) or by reading at 450/620nm (samples show OD values higher than 0.100).
6. Incubate the microplate for **60 min at +37°C**.

Important note: *Strips have to be sealed with the adhesive sealing foil, only when the test is performed manually. Do not cover strips when using ELISA automatic instruments.*

7. When the first incubation is finished, wash the microwells as previously described (section I.3)
8. Dispense 100 µl Enzyme Conjugate in all wells, except for A1, used for blanking operations.

Important note: *Be careful not to touch the inner surface of the well with the pipette tip and not to immerse the top of it into samples or controls. Contamination might occur.*

9. Check that the reagent has been dispensed properly and then incubate the microplate for **60 min at +37°C**.
10. When the second incubation is finished, wash the microwells as previously described (section I.3)
11. Pipette 100 µl Chromogen/Substrate into all the wells, A1 included.

Important note: *Do not expose to strong direct light as a high background might be generated.*

12. Incubate the microplate protected from light at **room temperature (18-24°C) for 20 minutes.** Wells dispensed with positive control and positive samples will turn from clear to blue.
13. Pipette 100 µl Sulphuric Acid into all the wells using the same pipetting sequence as in step 11. Addition of the stop solution will turn the positive control and positive samples from blue to yellow.
14. Measure the color intensity of the solution in each well, as described in section I.5 using a 450nm filter (reading) and a 620-630nm filter (background subtraction, strongly recommended), blanking the instrument on A1.

B) HBe Antibody:

1. Place the required number of strips in the plastic holder and carefully identify the wells for controls, calibrator and samples.
2. Leave the A1 well empty for blanking purposes.

3. Pipette 50 µl of the Negative Control in triplicate, 50 µl of the Antibody Calibrator in duplicate and then 50 µl of the Antibody Positive Control in single.
4. Then dispense 50 µl of samples in the proper wells.
5. Check for the presence of samples in wells by naked eye (there is a marked color difference between empty and full wells) or by reading at 450/620nm (samples show OD values higher than 0.100).
6. Dispense then 50 µl of HBe Antigen in all the wells, except for A1.
7. Incubate the microplate for **60 min at +37°C.**

Important note: *Strips have to be sealed with the adhesive sealing foil, only when the test is performed manually. Do not cover strips when using ELISA automatic instruments.*

8. When the first incubation is finished, wash the microwells as previously described (section I.3)
9. Finally proceed as described for the HBeAg assay from point 8 to the last one.

Important notes:

1. *If the second filter is not available, ensure that no finger prints are present on the bottom of the microwell before reading at 450nm. Finger prints could generate false positive results on reading.*
2. *Reading should ideally be performed immediately after the addition of the Stop Solution but definitely no longer than 20 minutes afterwards. Some self oxidation of the chromogen can occur leading to a higher background.*
3. *The Calibrator (CAL) does not affect the cut-off calculation and therefore the test results calculation. The Calibrator may be used only when a laboratory internal quality control is required by the management.*

N. ASSAY SCHEME

HBe antigen test

Controls and calibrator	100 ul
Samples	100 ul
1st incubation	**60 min**
Temperature	+37°C
Wash step	4-5 cycles
Enzyme Conjugate	100 ul
2nd incubation	**60 min**
Temperature	+37°C
Wash step	4-5 cycles
TMB/H2O2 mix	100 ul
3rd incubation	**20 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm

HBe antibody test

Controls and calibrator	50 ul
Samples	50 ul
Neutralising antigen	50 ul
1st incubation	**60 min**
Temperature	+37°C
Wash step	4-5 cycles
Enzymatic conjugate	100 ul
2nd incubation	**60 min**
Temperature	+37°C
Wash step	4-5 cycles
TMB/H2O2 mixture	100 ul
3rd incubation	**20 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm

An example of dispensation scheme is reported below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S2										
B	NC	S3										
C	NC	S4										
D	NC	S5										
E	CAL	S6										
F	CAL	S7										
G	PC	S8										
H	S1	S9										

Legenda: BLK = Blank // NC = Negative Control
PC = Positive Control // CAL = Calibrators // S = Sample

O. INTERNAL QUALITY CONTROL

A validation check is carried out on the controls any time the kit is used in order to verify whether the performances of the assay are as qualified.

Control that the following data are matched:

HBe Antigen

Check	OD450nm
Blank well	< 0.100 OD450nm
Negative Control (NC)	< 0.150 OD450nm after blanking coefficient of variation < 30%
Antigen Calibrator	S/Co > 2.0
Positive Control (PC)	> 1.500 OD450nm

HBe Antibody

Check	OD450nm
Blank well	< 0.100 OD450nm
Negative Control (NC)	> 1.000 OD450nm after blanking coefficient of variation < 10%
Antibody Calibrator	OD450nm < NC/1.5
Positive Control (PC)	OD450nm < NC/10

If the results of the test match the requirements stated above, proceed to the next section.

If they do not, don't proceed any further and perform the following checks:

HBeAg

Problem	Check
Blank well > 0.100 OD450nm	1. that the Chromogen/Substrate solution has not become contaminated during the assay
Negative Control (NC) > 0.150 OD450nm after blanking coefficient of variation > 30%	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (dispensation of positive control instead of negative control); 4. that no contamination of the negative control or of the wells where the control was dispensed has occurred due to positive samples, to spills or to the enzyme conjugate; 5. that micropipettes have not become contaminated with positive samples or with the enzyme conjugate 6. that the washer needles are not blocked or partially obstructed.

Calibrator S/Co < 2	1. that the procedure has been correctly performed; 2. that no mistake has occurred during its distribution (ex.: dispensation of negative control instead); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the calibrator has occurred.
Positive Control < 1.500 OD450nm	1. that the procedure has been correctly performed; 2. that no mistake has occurred during the distribution of the control (dispensation of negative control instead of positive control); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the positive control has occurred.

HBe antibody

Problem	Check
Blank well > 0.100 OD450nm	1. that the Chromogen/Substrate solution has not become contaminated during the assay
Negative Control (NC) < 1.000 OD450nm after blanking coefficient of variation > 10%	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (Ex.: dispensation of positive control instead of negative control; no dispensation of the Neutralizing Antigen; no dispensation of the Enzyme Conjugate); 4. that no contamination of the negative control or of the wells where the control was dispensed has occurred; 5. that micropipettes have not become contaminated with positive samples; 6. that the washer needles are not blocked or partially obstructed.
Calibrator OD450nm > NC/1.5	1. that the procedure has been correctly performed; 2. that no mistake has occurred during its distribution (ex.: dispensation of negative control instead; no dispensation of the Neutralizing Antigen; no dispensation of the Enzyme Conjugate); 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the calibrator has occurred.
Positive Control OD450nm > NC/10	1. that the procedure has been correctly performed; 2. that no mistake has occurred during the distribution of the control; 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the positive control has occurred.

If any of the above problems have occurred, report the problem to the supervisor for further actions.

P. CALCULATION OF THE CUT-OFF

The results are calculated by means of a cut-off value determined with the following formula:

HBeAg:

NC + 0.100 = Cut-Off (Co)

The value found for the test is used for the interpretation of results as described in the next paragraph.

HBeAb:

(NC + PC) / 3 = Cut-Off (Co)

Important note: *When the calculation of results is performed by the operating system of an ELISA automated work station, ensure that the proper formulation is used to calculate the cut-off value and generate the correct interpretation of results.*

Q. INTERPRETATION OF RESULTS

Results are interpreted as follows:

HBeAg:

S/Co	Interpretation
< 0.9	Negative
0.9 - 1.1	Equivocal
> 1.1	Positive

HBeAb:

Co/S	Interpretation
< 0.9	Negative
0.9 - 1.1	Equivocal
> 1.1	Positive

Note:
S = OD450nm of the sample
Co = cut-off value

An example of calculation for HBeAg assay is reported below.

The following data must not be used instead or real figures obtained by the user.

Negative Control: 0.020 – 0.030 – 0.025 OD450nm
Mean Value: 0.025 OD450nm
Lower than 0.150 – Accepted

Positive Control: 2.489 OD450nm
Higher than 1.500 – Accepted
Cut-Off = 0.025+0.100 = 0.125
Calibrator: 0.520 - 0.540 OD450nm
Mean value: 0.530 OD450nm S/Co = 4.2
S/Co higher than 2.0 – Accepted

Sample 1: 0.030 OD450nm
Sample 2: 1.800 OD450nm
Sample 1 S/Co < 0.9 = negative
Sample 2 S/Co > 1.1 = positive

An example of calculation for HBeAb is reported below.

The following data must not be used instead or real figures obtained by the user.

Negative Control: 2.100 – 2.200 – 2.000 OD450nm
Mean Value: 2.100 OD450nm
Higher than 1.000 – Accepted

Positive Control: 0.100 OD450nm
Lower than NC/10 – Accepted

Cut-Off = (2.100 + 0.100) / 3 = 0.733
Calibrator: 0.720-0.760 OD450nm
Mean value: 0.740 OD450nm
OD450nm < NC/1.5 – Accepted

Sample 1: 0.020 OD450nm
Sample 2: 1.900 OD450nm
Sample 1 Co/S > 1.1 positive
Sample 2 Co/S < 0.9 negative

Important notes:

1. *Interpretation of results should be done under the supervision of the laboratory director to reduce the risk of judgment errors and misinterpretations.*
2. *The identification of the clinical status of a HBV patient (acute, chronic, asymptomatic hepatitis) has to be done on the basis also of the other markers of HBV infection (HBsAg, HBsAb, HBcAb, HBcIgM);*
3. *When test results are transmitted from the laboratory to another facility, attention must be paid to avoid erroneous data transfer.*
4. *Diagnosis of viral hepatitis infection has to be taken by and released to the patient by a suitably qualified medical doctor.*

R. PERFORMANCE CHARACTERISTICS

A) HBeAg

1. Limit of detection

The limit of detection of the assay has been calculated by means of the International Standard for HBeAg, supplied by Paul Erlich Institute (PEI).
The data obtained by examining the limit of detection on three lots is reported in the table below.

HBE.CE Lot ID	PEI U/ml HBeAg
0103	0.25
0103/2	0.25
0303	0.25

In addition the preparation Accurun # 51, produced by Boston Biomedica Inc., USA, has been tested, upon dilution in FCS. Results are reported for three lots of products.

BBI's Accurun 51 (S/Co)

HBE.CE Lot ID	1 x	2 x	4 x	8 x	16x
0103	4.1	1.6	0.9	0.6	0.4
0103/2	4.1	1.7	0.9	0.6	0.4
0303	4.0	1.6	0.9	0.5	0.4

2. Diagnostic Sensitivity:

The diagnostic sensitivity has been tested on panels of samples classified positive by a US FDA approved kit.
Positive samples were collected from different HBV pathologies (acute, chronic) bearing HBeAg reactivity.
An overall value > 98% has been found in the study conducted on a total number of more than 200 samples.
Moreover the Panel of Seroconversion code PHM 935B, produced by BBI, was examined.
Data are reported below and compared with those reported by BBI for two other commercial products.

Sample ID	HBE.CE S/Co	Abbott EIA S/Co	Sorin EIA S/Co
21	5.4	4.5	6.3
22	3.7	4.3	5.4
23	1.9	3.2	3.1
24	1.1	2.4	1.5
25	1.0	2.1	1.2
26	0.6	1.7	0.7
27	0.2	0.8	0.3
28	0.2	0.6	0.2
29	0.2	0.4	0.2
30	0.2	0.3	0.2
31	0.1	0.3	0.2
32	0.1	0.3	0.2

Finally the Performance Panel code PHJ 201, produced by BBI, was tested. Data are reported below and compared with those reported by BBI for an other commercial product.

Member	PEI U/ml	HBE.CE	Sorin EIA
1	3	3.3	7.0
2	6	17.5	21.9
3	26	30.1	37.1
4	31	29.4	23.5
5	1	1.1	2.2
6	2	2.3	6.9
7	35	30.1	24.6
8	38	29.2	31.9
9	4	16.6	10.8
10	-	0.3	0.2
11	1	3.4	3.6
12	< 1	0.2	1.2
13	< 1	0.9	1.4
14	-	0.2	0.2
15	-	0.4	0.1
16	-	0.5	0.1
17	-	0.3	0.2
18	-	0.2	0.2
19	-	0.2	0.1
20	-	0.2	0.1
21	-	0.3	1.0
22	-	0.3	0.1
23	-	0.4	0.1
24	-	0.2	0.2
25	-	0.3	0.2

3. Diagnostic Specificity:

The diagnostic specificity has been determined on panels of negative samples from normal individuals and blood donors, classified negative with a FDA approved kit.
Both plasma, derived with different standard techniques of preparation (citrate, EDTA and heparin), and sera have been used to determine the specificity.
No false reactivity due to the method of specimen preparation has been observed.
Frozen specimens have also been tested to check whether this interferes with the performance of the test. No interference was observed on clean and particle free samples.
Samples derived from patients with different viral (HCV and HAV) and non viral pathologies of the liver that may interfere with the test were examined.
No cross reaction were observed.
The Performance Evaluation study conducted in a qualified external reference center on more than 500 samples has provided a value > 98%
.

4. Precision

It has been calculated on two samples examined in 16 replicate in three different runs on three lots.
The values found were as follows:

HBE.CE: lot # 0103

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.030	0.027	0.032	0.029
Std.Deviation	0.002	0.002	0.003	0.002
CV %	7.4	8.2	7.9	7.8

PEI 1 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.569	0.559	0.575	0.568
Std.Deviation	0.027	0.029	0.028	0.028
CV %	4.7	5.3	4.9	4.9
S/Co	4.4	4.4	4.4	4.4

HBE.CE: lot # 0103/2

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.033	0.031	0.030	0.032
Std.Deviation	0.003	0.003	0.002	0.003
CV %	7.9	8.5	7.4	8.0

PEI 1 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.565	0.573	0.568	0.569
Std.Deviation	0.026	0.025	0.024	0.025
CV %	4.7	4.3	4.2	4.4
S/Co	4.2	4.4	4.4	4.3

HBE.CE: lot # 0303

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.029	0.034	0.038	0.034
Std.Deviation	0.003	0.003	0.004	0.003
CV %	9.7	9.8	9.2	9.6

PEI 1 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.579	0.573	0.564	0.572
Std.Deviation	0.023	0.028	0.025	0.025
CV %	4.1	4.8	4.5	4.5
S/Co	4.5	4.3	4.1	4.3

B) HBe Antibody

1. Limit of detection

The limit of detection of the assay has been calculated by means of the International Standard for HBeAb, supplied by Paul Erlich Institute (PEI).
The data obtained by examining the limit of detection on three lots is reported in the table below.

HBE.CE Lot ID	PEI U/ml HBeAb
0103	0.25
0103/2	0.25
0303	0.25

In addition the preparation Accurun # 52, produced by Boston Biomedica Inc., USA, has been tested, upon dilution in FCS. Results are reported for three lots of products.

Accurun 52 (Co/S)

HBE.CE Lot ID	1 x	2 x	4 x	8 x	16x
0103	1.0	0.8	0.6	0.4	0.4
0103/2	1.0	0.8	0.6	0.5	0.4
0303	1.0	0.8	0.6	0.4	0.4

2. Diagnostic sensitivity:

The diagnostic sensitivity has been tested on panels of samples classified positive for HBeAb by a US FDA approved kit.
Positive samples were collected from different HBV pathologies bearing anti HBeAg antibody reactivity.
An overall value > 98% has been found in the study conducted on a total number of more than 200 samples.
Moreover the Panel of Seroconversion code PHM 935B, produced by BBI, was examined.
Data are reported below and compared with those reported by BBI for two other commercial products.

Sample ID	HBE.CE Co/S	Abbott EIA Co/S	Sorin EIA Co/S
21	0.4	0.4	0.5
22	0.4	0.5	0.6
23	0.4	0.6	0.5
24	0.4	0.5	0.6
25	0.4	0.6	0.5
26	0.5	0.6	0.6
27	0.6	0.8	0.7
28	0.7	0.9	0.7
29	0.6	0.9	0.7
30	0.6	1.0	0.9
31	1.0	1.3	1.1
32	1.0	1.2	1.0

Finally the Performance Panel code PHJ 201, produced by BBI, was tested. Data are reported below and compared with those reported by BBI for an other commercial product.

Member	PEI U/ml	HBE.CE	Sorin EIA
1	-	0.3	0.5
2	-	0.2	0.5
3	-	0.2	0.5
4	-	0.2	0.5
5	-	0.3	0.6
6	-	0.3	0.6
7	-	0.2	0.4
8	-	0.2	0.4
9	-	0.2	0.5
10	-	1.9	0.6
11	-	0.3	0.5
12	-	0.4	0.9
13	2	4.4	9.1
14	1	3.8	2.9
15	< 1	1.0	1.5
16	> 50	4.3	120.9
17	< 1	1.0	1.0
18	5	5.6	21.8
19	1	2.7	6.4
20	11	5.0	47.3
21	2	1.9	10.0
22	26	28.1	90.7
23	-	0.3	0.5
24	< 1	0.8	1.3
25	50	28.1	167.4

3. Diagnostic specificity:

The clinical specificity has been determined as described before for HBeAg.
The Performance Evaluation study conducted in a qualified external reference center on more than 500 samples has provided a value > 98%

4. Precision:

It has been calculated on two samples examined in 16 replicate in three different runs on three lots.
The values found were as follows:

HBE.CE: lot # 0103

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.484	2.420	2.471	2.458
Std.Deviation	0.129	0.160	0.142	0.144
CV %	5.2	6.6	5.7	5.9

PEI 0.25 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.867	0.800	0.878	0.848
Std.Deviation	0.043	0.060	0.050	0.051
CV %	5.0	7.5	5.7	6.1
Co/S	1.0	1.0	1.0	1.0

HBE.CE: lot # 0103/2

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.316	2.361	2.413	2.363
Std.Deviation	0.127	0.144	0.146	0.139
CV %	5.5	6.1	6.0	5.9

PEI 0.25 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.767	0.793	0.785	0.781
Std.Deviation	0.041	0.050	0.046	0.046
CV %	5.4	6.3	5.8	5.8
Co/S	1.0	1.0	1.0	1.0

HBE.CE: lot #0303

Negative Control (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	2.334	2.415	2.437	2.395
Std.Deviation	0.146	0.155	0.159	0.153
CV %	6.3	6.4	6.5	6.4

PEI 0.25 U/ml (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.850	0.867	0.876	0.864
Std.Deviation	0.052	0.051	0.048	0.050
CV %	6.1	5.9	5.5	5.8
Co/S	0.9	1.0	1.0	1.0

S. LIMITATIONS

Frozen samples containing fibrin particles or aggregates may generate false positive results.
Bacterial contamination or heat inactivation of the specimen may affect the absorbance values of the samples with consequent alteration of the level of the analyte.
This test is suitable only for testing single samples and not pooled ones.
Diagnosis of an infectious disease should not be established on the basis of a single test result. The patient's clinical history, symptomatology, as well as other diagnostic data should be considered.

REFERENCES

1. Engvall E. and Perlmann P.. J. Immunochemistry, 8, 871-874, 1971
2. Engvall E. and Perlmann P.. J.Immunol. 109, 129-135, 1971
3. Remington J.S. and Klein J.O.. In "Infectious diseases of the fetus and newborn infant". Sanders, Philadelphia, London, Toronto.
4. Volk W.A.. In "Essential of Medical Microbiology". 2nd ed. pp 729, G.B.Lippincott Company, Philadelphia, New York, S.José, Toronto.
5. Snydman D.R., Bryan J.A. and Dixon R.E.. Ann.Int.Med., 83, pp 838, 1975.
6. Barker L.F., Gerety R.J., Lorenz D.E.. Viral Hepatitis. 581-587, 1978.
7. Cossart Y.. Brit.Med.Bull., 28, pp 156, 1972
8. Lander J.J., Alter H. and Purcell R.. J.Immunol.. 106, pp 1066, 1971
9. Mushawar I.K., Dienstag J.L., Polesky H.F. et al.. Ann.J.Clin.Pathol., 76, pp 773, 1981.
10. Ling C.M., Mushawar I.K. et al.. Infection and Immunity, 24: 235, 1979.
11. Mushawar I.K., Overby L.R. et al.. J.Med.Virol.,2: 77, 1978
12. Aldershville J., Frosner G.G. et al.. J.Med.Dis., 141: 293, 1980
13. Magnius L.O., Lindhom A. et al.. J.Am.Med.Assoc., 231: 356, 1975

Krugman S., Overby L.R. et al.. N.Engl.J.Med.. 300: 101, 1979

All the IVD Products manufactured by the company are under the control of a certified Quality Management System approved by an EC Notified Body. Each lot is submitted to a quality control and released into the market only if conforming with the EC technical specifications and acceptance criteria.

Manufacturer:
Dia.Pro Diagnostic Bioprobes Srl
Via G. Carducci n° 27 – Sesto San Giovanni (MI) – Italy

CE
0318

HCV Ab

Version 4.0 Enzyme Immunoassay for the determination of anti Hepatitis C Virus antibody in human serum and plasma

- for "in vitro" diagnostic use only -

DIA.PRO
Diagnostic Bioprobes Srl
Via G. Carducci n° 27
20099 Sesto San Giovanni
(Milano) - Italy
Phone +39 02 27007161
Fax +39 02 26007726
e-mail: info@diapro.it

REF CVAB.CE
96,192,480,960 Tests

HCV Ab

A. INTENDED USE

Version 4.0 Enzyme ImmunoAssay (ELISA) for the determination of antibodies to Hepatitis C Virus in human plasma and sera. The kit is intended for the screening of blood units and the follow-up of HCV-infected patients.
For "in vitro" diagnostic use only.

B. INTRODUCTION

The World Health Organization (WHO) define Hepatitis C infection as follows:

"Hepatitis C is a viral infection of the liver which had been referred to as parenterally transmitted "non A, non B hepatitis" until identification of the causative agent in 1989. The discovery and characterization of the hepatitis C virus (HCV) led to the understanding of its primary role in post-transfusion hepatitis and its tendency to induce persistent infection.

HCV is a major cause of acute hepatitis and chronic liver disease, including cirrhosis and liver cancer. Globally, an estimated 170 million persons are chronically infected with HCV and 3 to 4 million persons are newly infected each year. HCV is spread primarily by direct contact with human blood. The major causes of HCV infection worldwide are use of unscreened blood transfusions, and re-use of needles and syringes that have not been adequately sterilized. No vaccine is currently available to prevent hepatitis C and treatment for chronic hepatitis C is too costly for most persons in developing countries to afford. Thus, from a global perspective, the greatest impact on hepatitis C disease burden will likely be achieved by focusing efforts on reducing the risk of HCV transmission from nosocomial exposures (e.g. blood transfusions, unsafe injection practices) and high-risk behaviours (e.g. injection drug use).

Hepatitis C virus (HCV) is one of the viruses (A, B, C, D, and E), which together account for the vast majority of cases of viral hepatitis. It is an enveloped RNA virus in the *flaviviridae* family which appears to have a narrow host range. Humans and chimpanzees are the only known species susceptible to infection, with both species developing similar disease. An important feature of the virus is the relative mutability of its genome, which in turn is probably related to the high propensity (80%) of inducing chronic infection. HCV is clustered into several distinct genotypes which may be important in determining the severity of the disease and the response to treatment.

The incubation period of HCV infection before the onset of clinical symptoms ranges from 15 to 150 days. In acute infections, the most common symptoms are fatigue and jaundice: however, the majority of cases (between 60% and 70%), even those that develop chronic infection, are a symptomatic. About 80% of newly infected patients progress to develop chronic infection. Cirrhosis develops in about 10% to 20% of persons with chronic infection, and liver cancer develops in 1% to 5% of persons with chronic infection over a period of 20 to 30 years. Most patients suffering from liver cancer who do not have hepatitis B virus infection have evidence of HCV infection. The mechanisms by which HCV infection leads to liver cancer are still unclear. Hepatitis C also exacerbates the severity of underlying liver disease when it coexists with other hepatic conditions. In particular, liver disease progresses more rapidly among persons with alcoholic liver disease and HCV infection. HCV is spread primarily by direct contact with human blood. Transmission through blood transfusions that are not screened for HCV infection, through the reuse of inadequately sterilized needles, syringes or other medical equipment, or through needle-sharing among drug-users, is well documented. Sexual and perinatal transmission may also occur, although less frequently. Other modes of transmission such as social, cultural, and behavioural practices using percutaneous procedures (e.g. ear and body piercing, circumcision, tattooing) can occur if inadequately sterilized equipment is used. HCV is not spread by sneezing, hugging, coughing, food or water, sharing eating utensils, or casual contact.

In both developed and developing countries, high risk groups include injecting drug users, recipients of unscreened blood, haemophiliacs, dialysis patients and persons with multiple sex partners who engage in unprotected sex. In developed countries, it is estimated that 90% of persons with chronic HCV infection are current and former injecting drug users and those with a history of transfusion of unscreened blood or blood products. In many developing countries, where unscreened blood and blood products are still being used, the major means of transmission are unsterilized injection equipment and unscreened blood transfusions. In addition, people who use traditional scarification and circumcision practices are at risk if they use or re-use unsterilized tools.

WHO estimates that about 170 million people, 3% of the world's population, are infected with HCV and are at risk of developing liver cirrhosis and/or liver cancer. The prevalence of HCV infection in some countries in Africa, the Eastern Mediterranean, South-East Asia and the Western Pacific (when prevalence data are available) is high compared to some countries in North America and Europe.

Diagnostic tests for HCV are used to prevent infection through screening of donor blood and plasma, to establish the clinical diagnosis and to make better decisions regarding medical management of a patient. Diagnostic tests commercially available today are based on Enzyme immunosorbent assays (EIA) for the detection of HCV specific antibodies. EIAs can detect more than 95% of chronically infected patients but can detect only 50% to 70% of acute infections. A recombinant immunoblot assay (RIBA) that identifies antibodies which react with individual HCV antigens is often used as a supplemental test for confirmation of a positive EIA result. Testing for HCV circulating by amplification tests RNA (e.g. polymerase chain reaction or PCR, branched DNA assay) is also being utilized for confirmation of serological results as well as for assessing the effectiveness of antiviral therapy. A positive result indicates the presence of active infection and a potential for spread of the infection and or/the development of chronic liver disease.

Antiviral drugs such as interferon taken alone or in combination with ribavirin, can be used for the treatment of persons with chronic hepatitis C, but the cost of treatment is very high. Treatment with interferon alone is effective in about 10% to 20% of patients. Interferon combined with ribavirin is effective in about 30% to 50% of patients. Ribavirin does not appear to be effective when used alone.

There is no vaccine against HCV. Research is in progress but the high mutability of the HCV genome complicates vaccine development. Lack of knowledge of any protective immune response following HCV infection also impedes vaccine research. It is not known whether the immune system is able to eliminate the virus.

Some studies, however, have shown the presence of virus neutralizing antibodies in patients with HCV infection. In the absence of a vaccine, all precautions to prevent infection must be taken including (a) screening and testing of blood and organ donors: (b) Virus inactivation of plasma derived products: (c) implementation and maintenance of infection control practices in health care settings, including appropriate sterilization of medical and dental equipment: (d) promotion of behaviour change among the general public and health care workers to reduce overuse of injections and to use safe injection practices: and (e) Risk reduction counselling for persons with high-risk drug and sexual practices. "

The genome encodes for structural components, a nucleocapsid protein and two envelope glycoproteins, and functional constituents involved in the virus replication and prolein processing.
The nucleocapsid-encoding region seems to be the most conservative among the isolates obtained all over the world.

C. PRINCIPLE OF THE TEST

Microplates are coated with HCV-specific antigens derived from "core" and "ns" regions encoding for conservative and immunodominant antigenic determinants (Core peptide, recombinant NS3, NS4 and NS5 peptides).
The solid phase is first treated with the diluted sample and HCV Ab are captured, if present, by the antigens.
After washing out all the other components of the sample, in the 2nd incubation bound HCV antibodies, IgG and IgM as well, are detected by the addition of polyclonal specific anti hIgG&M antibodies, labelled with peroxidase (HRP).
The enzyme captured on the solid phase, acting on the substrate/chromogen mixture, generates an optical signal that is proportional to the amount of anti HCV antibodies present in the sample. A cut-off value let optical densities be interpreted into HCV antibody negative and positive results.

D. COMPONENTS

Code CVAB.CE contains reagents for 192 tests.

1. Microplate MICROPLATE
n° 2 microplates
12 strips of 8 microwells coated with Core peptide, recombinant NS3, NS4 and NS5 peptides. Plates are sealed into a bag with desiccant.

2. Negative Control CONTROL -
1x4.0ml/vial. Ready to use control. It contains 1% goat serum proteins, 10 mM Na-citrate buffer pH 6.0 +/-0.1, 0.5% Tween 20, 0.09% Na-azide and 0.1% Kathon GC as preservatives. The negative control is olive green colour coded.

3. Positive Control CONTROL +
1x4.0ml/vial. Ready to use control. It contains 1% goat serum proteins, human antibodies positive to HCV, 10 mM Na-citrate buffer pH 6.0 +/-0.1, 0.5% Tween 20, 0.09% Na-azide and 0.1% Kathon GC as preservatives. The Positive Control is blue colour coded.

4. Calibrator CAL ...
n° 2 vials. Lyophilized calibrator. To be dissolved with the volume of EIA grade water reported on the label. It contains foetal bovine serum proteins, human antibodies to HCV whose content is calibrated on the NIBSC Working Standard code 99/588-003-WI, 10 mM Na-citrate buffer pH 6.0 +/-0.1, 0.3 mg/ml gentamicine sulphate and 0.1% Kathon GC as preservatives.

Note: The volume necessary to dissolve the content of the vial may vary from lot to lot. Please use the right volume reported on the label .

5. Wash buffer concentrate WASHBUF 20X
2x60ml/bottle. 20x concentrated solution. Once diluted, the wash solution contains 10 mM phosphate buffer pH 7.0+/-0.2, 0.05% Tween 20 and 0.05% Kathon GC.

6. Enzyme Conjugate CONJ
2x16ml/vial. Ready to use and pink/red colour coded reagent. It contains Horseradish Peroxidase conjugated goat polyclonal antibodies to human IgG and IgM, 5% BSA, 10 mM Tris buffer pH 6.8+/-0.1, 0.1% Kathon GC and 0.02% gentamicine sulphate as preservatives.

7. Chromogen/Substrate SUBS TMB
2x16ml/vial. Ready-to-use component. It contains 50 mM citrate-phosphate buffer pH 3.5-3.8, 4% dimethylsulphoxide, 0.03% tetra-methyl-benzidine or TMB and 0.02% hydrogen peroxide or H_2O_2.
Note: To be stored protected from light as sensitive to strong illumination.

8. Assay Diluent DILAS
1x15ml/vial. 10 mM tris buffered solution pH 8.0 +/-0.1 containing 0.1% Kathon GC for the pre-treatment of samples and controls in the plate, blocking interference.

9. Sulphuric Acid H_2SO_4 0.3 M
1x32ml/bottle. It contains 0.3 M H_2SO_4 solution.
Attention: Irritant (H315; H319; P280; P302+P352; P332+P313; P305+P351+P338; P337+P313; P362+P363)

10. Sample Diluent: DILSPE
2x50ml/bottle. It contains 1% goat serum proteins, 10 mM Na-citrate buffer pH 6.0 +/-0.1, 0.5% Tween 20, 0.09% Na-azide and 0.1% Kathon GC as preservatives. To be used to dilute the sample.
Note: The diluent changes colour from olive green to dark bluish green in the presence of sample.

11. Plate sealing foils **n° 4**

12. Package insert **n° 1**

Important note: Only upon specific request , Dia.Pro can supply reagents for 96, 480, 960 tests , as reported below:

1. Microplate	n°1	n°5	n°10
2.NegativeControl	1x2.0ml/vial	1x10ml/vial	1x20.ml/vial
3.PositiveControl	1x2.0ml/vial	1x10ml/vial	1x20.ml/vial
4.Calibrator	n° 1 vial	n° 5 vials	n° 10 vials
5.Wash buff conc	1x60ml/bottle	5x60ml/bottles	4x150ml/bottles
6.Enz. Conjugate	1x16ml/vial	2x40ml/bottles	4x40ml/bottles
7.Chromog/Subs	1x16ml/vial	2x40ml/bottles	4x40ml/bottles
8.Assay Diluent	1x8ml/vial	1x40ml/bottle	1x80ml/bottle
9.Sulphuric Acid	1x15ml/vial	2x40ml/bottle	2x80ml/bottles
10.SampleDiluent	1x50ml/vial	5x50ml/bottles	4x125ml/bottles
11.Plate seal foils	n° 2	n° 10	n° 20
12. Pack. insert	n° 1	n° 1	n° 1
Number of tests	96	480	960
Code	CVAB.CE.96	CVAB.CE.480	CVAB.CE.960

E. MATERIALS REQUIRED BUT NOT PROVIDED

1. Calibrated Micropipettes (200ul and 10ul) and disposable plastic tips.
2. EIA grade water (bidistilled or deionised, charcoal treated to remove oxidizing chemicals used as disinfectants).
3. Timer with 60 minute range or higher.
4. Absorbent paper tissues.
5. Calibrated ELISA microplate thermostatic incubator capable to provide a temperature of +37°C.
6. Calibrated ELISA microwell reader with 450nm (reading) and with 620-630nm (blanking) filters.
7. Calibrated ELISA microplate washer.
8. Vortex or similar mixing tools.

F. WARNINGS AND PRECAUTIONS

1. The kit has to be used by skilled and properly trained technical personnel only, under the supervision of a medical doctor responsible of the laboratory.
2. When the kit is used for the screening of blood units and blood components, it has to be used in a laboratory certified and qualified by the national authority in that field (Ministry of Health or similar entity) to carry out this type of analysis.
3. All the personnel involved in performing the assay have to wear protective laboratory clothes, talc-free gloves and glasses. The use of any sharp (needles) or cutting (blades) devices should be avoided. All the personnel involved should be trained in biosafety procedures, as recommended by the Center for Disease Control, Atlanta, U.S. and reported in the National Institute of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
4. All the personnel involved in sample handling should be vaccinated for HBV and HAV, for which vaccines are available, safe and effective.
5. The laboratory environment should be controlled so as to avoid contaminants such as dust or air-born microbial agents, when opening kit vials and microplates and when performing the test. Protect the Chromogen/Substrate from strong light and avoid vibration of the bench surface where the test is undertaken.
6. Upon receipt, store the kit at 2..8°C into a temperature controlled refrigerator or cold room.
7. Do not interchange components between different lots of the kits. It is recommended that components between two kits of the same lot should not be interchanged.
8. Check that the reagents are clear and do not contain visible heavy particles or aggregates. If not, advise the laboratory supervisor to initiate the necessary procedures for kit replacement.
9. Avoid cross-contamination between serum/plasma samples by using disposable tips and changing them after each sample.
10. Avoid cross-contamination between kit reagents by using disposable tips and changing them between the use of each one.
11. Do not use the kit after the expiration date stated on the external container and internal (vials) labels.
12. Treat all specimens as potentially infective. All human serum specimens should be handled at Biosafety Level 2, as recommended by the Center for Disease Control, Atlanta, U.S. in compliance with what reported in the Institutes of Health's publication: "Biosafety in Microbiological and Biomedical Laboratories", ed. 1984.
13. The use of disposable plastic-ware is recommended in the preparation of the liquid components or in transferring components into automated workstations, in order to avoid cross contamination.
14. Waste produced during the use of the kit has to be discarded in compliance with national directives and laws concerning laboratory waste of chemical and biological substances. In particular, liquid waste generated from the washing procedure, from residuals of controls and from samples has to be treated as potentially infective material and inactivated before waste. Suggested procedures of inactivation are treatment with a 10% final concentration of household bleach for 16-18 hrs or heat inactivation by autoclave at 121°C for 20 min..
15. Accidental spills from samples and operations have to be adsorbed with paper tissues soaked with household bleach and then with water. Tissues should then be discarded in proper containers designated for laboratory/hospital waste.
16. The Sulphuric Acid is an irritant. In case of spills, wash the surface with plenty of water
17. Other waste materials generated from the use of the kit (example: tips used for samples and controls, used microplates) should be handled as potentially infective and disposed according to national directives and laws concerning laboratory wastes.

G. SPECIMEN: PREPARATION AND RECOMMANDATIONS

1. Blood is drawn aseptically by venipuncture and plasma or serum is prepared using standard techniques of preparation of samples for clinical laboratory analysis. No influence has been observed in the preparation of the sample with citrate, EDTA and heparin.
2. Avoid any addition of preservatives to samples: especially sodium azide as this chemical would affect the enzymatic activity of the conjugate, generating false negative results.
3. Samples have to be clearly identified with codes or names in order to avoid misinterpretation of results. When the kit is used for the screening of blood units, bar code labeling and electronic reading is strongly recommended.
4. Haemolysed (red) and visibly hyperlipemic ("milky") samples have to be discarded as they could generate false results. Samples containing residues of fibrin or heavy particles or microbial filaments and bodies should be discarded as they could give rise to false results.
5. Sera and plasma can be stored at +2°..8°C for up to seven days after collection. For longer storage periods, samples can be stored frozen at –20°C for several months. Any frozen samples should not be frozen/thawed more than once as this may generate particles that could affect the test result.
6. If particles are present, centrifuge at 2.000 rpm for 20 min or filter using 0.2-0.8u filters to clean up the sample for testing.

H. PREPARATION OF COMPONENTS AND WARNINGS

A study conducted on an opened kit has not pointed out any relevant loss of activity up to 6 re-use of the device and up to 6 months.

1. Microplates:
Allow the microplate to reach room temperature (about 1 hr) before opening the container. Check that the desiccant is not turned to dark green, indicating a defect of manufacturing.
In this case call Dia.Pro's customer service.
Unused strips have to be placed back into the aluminium pouch, in presence of desiccant supplied, firmly zipped and stored at +2°..8°C.
When opened the first time, residual strips are stable till the indicator of humidity inside the desiccant bag turns from yellow to green.

2. Negative Control:
Ready to use. Mix well on vortex before use.

3. Positive Control:
Ready to use. Mix well on vortex before use. Handle this component as potentially infective, even if HCV, eventually present in the control, has been chemically inactivated.

4. Calibrator:
Dissolve carefully the content of the lyophilised vial with the volume of EIA grade water reported on its label.
Mix well on vortex before use.

Handle this component as potentially infective, even if HCV, eventually present in the control, has been chemically inactivated.
Note: *When dissolved the Calibrator is not stable. Store in aliquots at –20°C.*

5. Wash buffer concentrate:
The 20x concentrated solution has to be diluted with EIA grade water up to 1200 ml and mixed gently end-over-end before use. As some salt crystals may be present into the vial, take care to dissolve all the content when preparing the solution.
In the preparation avoid foaming as the presence of bubbles could give origin to a bad washing efficiency.
Note: *Once diluted, the wash solution is stable for 1 week at* +2..8° C.

6. Enzyme conjugate:
Ready to use. Mix well on vortex before use.
Be careful not to contaminate the liquid with oxidizing chemicals, air-driven dust or microbes.
If this component has to be transferred use only plastic, possibly sterile disposable containers.

7. Chromogen/Substrate:
Ready to use. Mix well on vortex before use.
Be careful not to contaminate the liquid with oxidizing chemicals, air-driven dust or microbes.
Do not expose to strong illumination, oxidizing agents and metallic surfaces.
If this component has to be transferred use only plastic, possible sterile disposable container.

8. Assay Diluent:
Ready to use. Mix well on vortex before use.

9. Sulphuric Acid:
Ready to use. Mix well on vortex before use.
Attention: Irritant (H315; H319; P280; P302+P352; P332+P313; P305+P351+P338; P337+P313; P362+P363).

Precautionary **P statements:**
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 – If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 – If eye irritation persists: Get medical advice/attention.
P362 + P363 - Take off contaminated clothing and wash it before reuse.

10. Sample Diluent:
Ready to use. Mix well on vortex before use.

I. INSTRUMENTS AND TOOLS USED IN COMBINATION WITH THE KIT

1. Micropipettes have to be calibrated to deliver the correct volume required by the assay and must be submitted to regular decontamination (household alcohol, 10% solution of bleach, hospital grade disinfectants) of those parts that could accidentally come in contact with the sample. They should also be regularly maintained in order to show a precision of 1% and a trueness of +/-2%. Decontamination of spills or residues of kit components should also be carried out regularly.
2. The ELISA incubator has to be set at +37°C (tolerance of +/- 0.5°C) and regularly checked to ensure the correct temperature is maintained. Both dry incubators and water baths are suitable for the incubations, provided that the instrument is validated for the incubation of ELISA tests.
3. The ELISA washer is extremely important to the overall performances of the assay. The washer must be carefully validated and correctly optimized using the kit controls and reference panels, before using the kit for routine laboratory tests. Usually 4-5 washing cycles (aspiration + dispensation of 350ul/well of washing solution = 1 cycle) are sufficient to ensure that the assay performs as expected. A soaking time of 20-30 seconds between cycles is suggested. In order to set correctly their number, it is recommended to run an assay with the kit controls and well characterized negative and positive reference samples, and check to match the values reported below in the sections "Validation of Test" and "Assay Performances". Regular calibration of the volumes delivered by, and maintenance (decontamination and cleaning of needles) of the washer has to be carried out according to the instructions of the manufacturer.
4. Incubation times have a tolerance of ±5%.
5. The ELISA microplate reader has to be equipped with a reading filter of 450nm and with a second filter (620-630nm, strongly recommended) for blanking purposes. Its standard performances should be (a) bandwidth ≤ 10 nm; (b) absorbance range from 0 to ≥ 2.0; (c) linearity to ≥ 2.0; (d) repeatability ≥ 1%. Blanking is carried out on the well identified in the section "Assay Procedure". The optical system of the reader has to be calibrated regularly to ensure that the correct optical density is measured. It should be regularly maintained according to the manufacturer 's instructions.
6. When using an ELISA automated work station, all critical steps (dispensation, incubation, washing, reading, data handling) have to be carefully set, calibrated, controlled and regularly serviced in order to match the values reported in the section O "Internal Quality Control". The assay protocol has to be installed in the operating system of the unit and validated as for the washer and the reader. In addition, the liquid handling part of the station (dispensation and washing) has to be validated and correctly set. Particular attention must be paid to avoid carry over by the needles used for dispensing and for washing. This must be studied and controlled to minimize the possibility of contamination of adjacent wells. The use of ELISA automated work stations is recommended for blood screening when the number of samples to be tested exceed 20-30 units per run.
7. When using automatic devices, in case the vial holder of the instrument does not fit with the vials supplied in the kit, transfer the solution into appropriate containers and label them with the same label peeled out from the original vial. This operation is important in order to avoid mismatching contents of vials, when transferring them. When the test is over, return the secondary labeled containers to 2..8°C, firmly capped.
8. Dia.Pro's customer service offers support to the user in the setting and checking of instruments used in combination with the kit, in order to assure compliance with the requirements described. Support is also provided for the installation of new instruments to be used with the kit.

L. PRE ASSAY CONTROLS AND OPERATIONS

1. Check the expiration date of the kit printed on the external label of the kit box. Do not use if expired.
2. Check that the liquid components are not contaminated by naked-eye visible particles or aggregates. Check that the Chromogen/Substrate is colorless or pale blue by aspirating a small volume of it with a sterile transparent plastic pipette. Check that no breakage occurred in transportation and no spillage of liquid is present inside the box. Check that the aluminum pouch, containing the microplate, is not punctured or damaged.
3. Dilute all the content of the 20x concentrated Wash Solution as described above.
4. Dissolve the Calibrator as described above.
5. Allow all the other components to reach room temperature (about 1 hr) and then mix as described.

6. Set the ELISA incubator at +37°C and prepare the ELISA washer by priming with the diluted washing solution, according to the manufacturers instructions. Set the right number of washing cycles as found in the validation of the instrument for its use with the kit.
7. Check that the ELISA reader has been turned on at least 20 minutes before reading.
8. If using an automated workstation, turn it on, check settings and be sure to use the right assay protocol.
9. Check that the micropipettes are set to the required volume.
10. Check that all the other equipment is available and ready to use.
11. In case of problems, do not proceed further with the test and advise the supervisor.

M. ASSAY PROCEDURE

The assay has to be carried out according to what reported below, taking care to maintain the same incubation time for all the samples in testing.

Automated assay:
In case the test is carried out automatically with an ELISA system, we suggest to make the instrument aspirate 200 ul Sample Diluent and then 10 ul sample.
All the mixture is then carefully dispensed directly into the appropriate sample well of the microplate. Before the next sample is aspirated, needles have to be duly washed to avoid any cross-contamination among samples.
Do not dilute controls/calibrator as they are ready to use.
Dispense 200 ul controls/calibrator in the appropriate control/calibration wells.

Important Note: *Visually monitor that samples have been diluted and dispensed into appropriate wells. This is simply achieved by checking that the colour of dispensed samples has turned to dark bluish-green while the colour of the negative control has remained olive green.*

For the next operations follow the operative instructions reported below for the Manual Assay.
It is strongly recommended to check that the time lap between the dispensation of the first and the last sample will be calculated by the instrument and taken into consideration by delaying the first washing operation accordingly.

Manual assay:
1. Place the required number of Microwells in the microwell holder. Leave the 1st well empty for the operation of blanking.
2. Dispense 200 ul of Negative Control in triplicate, 200 ul Calibrator in duplicate and 200 ul Positive Control in single in proper wells. Do not dilute Controls and Calibrator as they are pre-diluted, ready to use !
3. Add 200 ul of Sample Dilueni (DILSPE) to all the sample wells; then dispense 10 ul sample in each properly identified well. Mix gently the plate, avoiding overflowing and contaminating adjacent wells, in order to fully disperse the sample into its diluent.

Important note: *Check that the colour of the Sample Diluent, upon addition of the sample, changes from light green to dark bluish green, monitoring that the sample has been really added.*

4. Dispense 50 ul Assay Diluent (DILAS) into all the controls/calibrator and sample wells. Check that the color of samples has turned to dark blue.
5. Incubate the microplate for **45 min at +37°C.**

Important note: *Strips have to be sealed with the adhesive sealing foil, supplied, only when the test is carried out manually. Do not cover strips when using ELISA automatic instruments.*

6. Wash the microplate with an automatic washer by delivering and aspiraling 350ul/well of diluted washing solution as reported previously (section I.3).
7. Pipette 100µl Enzyme Conjugate into each well, except the 1st blanking well, and cover with the sealer. Check that this pink/red coloured component has been dispensed in all the wells, except A1.

Important note: *Be careful not to touch the plastic inner surface of the well with the tip filled with the Enzyme Conjugate. Contamination might occur.*

8. Incubate the microplate for **45 min at +37°C.**
9. Wash microwells as in step 6.
10. Pipette 100µl Chromogen/Substrate mixture into each well, the blank well included. Then incubate the microplate at **room temperature (18-24°C) for 15 minutes.**

Important note: *Do not expose to strong direct illumination. High background might be generated.*

11. Pipette 100µl Sulphuric Acid into **all** the wells using the same pipetting sequence as in step 10 to stop the enzymatic reaction. Addition of acid will turn the positive control and positive samples from blue to yellow/brown.
12. Measure the colour intensity of the solution in each well, as described in section I.5, at 450nm filter (reading) and at 620-630nm (background subtraction, strongly recommended), blanking the instrument on A1.

Important notes:
1. *If the second filter is not available ensure that no finger prints are present on the bottom of the microwell before reading at 450nm. Finger prints could generate false positive results on reading.*
2. *Reading has to be carried out just after the addition of the Stop Solution and anyway not any longer than 20 minutes after its addition. Some self oxidation of the chromogen can occur leading to high background.*
3. *Shaking at 350 ±150 rpm during incubation has been proved to increase the sensitivity of the assay of about 20%.*
4. *The Calibrator (CAL) does not affect the cut-off calculation and therefore the test results calculation. The Calibrator may be used only when a laboratory internal quality control is required by the management.*

N. ASSAY SCHEME

Method	Operations
Controls & Calibrator	200 ul
Samples	200ul dil.+10ul
Assay Diluent (DILAS)	50 ul
1st incubation	**45 min**
Temperature	+37°C
Wash step	4-5 cycles
Enzyme conjugate	100 ul
2nd incubation	**45 min**
Temperature	+37°C
Wash step	4-5 cycles
TMB/H2O2	100 ul
3rd incubation	**15 min**
Temperature	r.t.
Sulphuric Acid	100 ul
Reading OD	450nm

An example of dispensation scheme is reported below:

Microplate

	1	2	3	4	5	6	7	8	9	10	11	12
A	BLK	S2										
B	NC	S3										
C	NC	S4										
D	NC	S5										
E	CAL	S6										
F	CAL	S7										
G	PC	S8										
H	S1	S9										

Legenda: BLK = Blank NC = Negative Control
CAL = Calibrator PC = Positive Control S = Sample

O. INTERNAL QUALITY CONTROL

A check is carried out on the controls and the calibrator any time the kit is used in order to verify whether their OD450nm values are as expected and reported in the table below.

Check	Requirements
Blank well	< 0,100 OD450nm value
Negative Control (NC)	< 0,050 mean OD450nm value after blanking
Calibrator	S/Co > 1,1
Positive Control	> 1,000 OD450nm value

If the results of the test match the requirements stated above, proceed to the next section.
If they do not, do not proceed any further and operate as follows:

Problem	Check
Blank well > 0,100 OD450nm	1. that the Chromogen/Sustrate solution has not got contaminated during the assay
Negative Control (NC) > 0,050 OD450nm after blanking	1. that the washing procedure and the washer settings are as validated in the pre qualification study; 2. that the proper washing solution has been used and the washer has been primed with it before use; 3. that no mistake has been done in the assay procedure (dispensation of positive control instead of negative control; 4. that no contamination of the negative control or of their wells has occurred due to positive samples, to spills or to the enzyme conjugate; 5. that micropipettes haven't got contaminated with positive samples or with the enzyme conjugate 6. that the washer needles are not blocked or partially obstructed.
Calibrator S/Co < 1,1	1. that the procedure has been correctly executed; 2. that no mistake has been done in its distribution (ex.: dispensation of negative control instead of control serum) 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the calibrator has occurred.
Positive Control < 1,000 OD450nm	1. that the procedure has been correctly executed; 2. that no mistake has been done in the distribution of controls (dispensation of negative control instead of positive control. In this case, the negative control will have an OD450nm value > 0,150, too; 3. that the washing procedure and the washer settings are as validated in the pre qualification study; 4. that no external contamination of the positive control has occurred.

Should these problems happen, after checking, report any residual problem to the supervisor for further actions.

P. CALCULATION OF THE CUT-OFF

The tests results are calculated by means of a cut-off value determined with the following formula on the mean OD450nm value of the Negative Control (NC):

NC + 0.350 = Cut-Off (Co)

The value found for the test is used for the interpretation of results as described in the next paragraph.

Important note: *When the calculation of results is done by the operative system of an ELISA automated work station be sure that the proper formulation is used to calculate the cut-off value and generate the right interpretations of results.*

Q. INTERPRETATION OF RESULTS

Test results are interpreted as ratio of the sample OD450nm and the Cut-Off value (or S/Co) according to the following table:

S/Co	Interpretation
< 0,9	Negative
0,9 - 1,1	Equivocal
> 1,1	Positive

A negative result indicates that the patient has not been infected by HCV or that the blood unit may be transfused.
Any patient showing an equivocal result should be tested again on a second sample taken 1-2 weeks later from the patient and examined. The blood unit should not be transfused.
A positive result is indicative of HCV infection and therefore the patient should be treated accordingly or the blood unit should be discarded.

Important notes:

1. *Interpretation of results should be done under the supervision of the responsible of the laboratory to reduce the risk of judgment errors and misinterpretations.*
2. *Any positive result should be confirmed by an alternative method capable to detect IgG and IgM antibodies (confirmation test) before a diagnosis of viral hepatitis is formulated.*
3. *As proved in the Performance Evaluation of the product, the assay is able to detect seroconversion to anti HCV core antibodies* ***earlier*** *than some other commercial kits. Therefore a positive result, not confirmed with these commercial kits, does not have to be ruled out as a false positive result ! The sample has to be anyway submitted to a confirmation test (supplied upon request by DiaPro srl, code CCONF).*
4. *As long as the assay is able to detect also IgM antibodies some discrepant results with other commercial products for the detection of anti HCV antibodies - lacking anti HIgM conjugate in the formulation of the enzyme tracer and therefore missing IgM reactivity - may be present. The real positivity of the sample for antibodies to HCV should be then confirmed by examining also IgM reactivity, important for the diagnosis of HCV infection.*
5. *When test results are transmitted from the laboratory to an informatics centre, attention has to be done to avoid erroneous data transfer.*
6. *Diagnosis of viral hepatitis infection has to be done and released to the patient only by a qualified medical doctor.*

An example of calculation is reported below:

The following data must not be used instead or real figures obtained by the user.
Negative Control: 0,019 – 0,020 – 0,021 OD450nm
Mean Value: 0,020 OD450nm
Lower than 0,050 – Accepted
Positive Control: 2,189 OD450nm
Higher than 1,000 – Accepted
Cut-Off = 0,020+0,350 = 0,370
Calibrator: 0,550 - 0,530 OD450nm
Mean value: 0,540 OD450nm S/Co = 1,4
S/Co higher than 1,1 – Accepted
Sample 1: 0,070 OD450nm
Sample 2: 1,690 OD450nm
Sample 1 S/Co < 0,9 = negative
Sample 2 S/Co > 1,1 = positive

R. PERFORMANCES

Evaluation of Performances has been conducted in accordance to what reported in the Common Technical Specifications or CTS (art. 5, Chapter 3 of IVD Directive 98/79/EC).

1. LIMIT OF DETECTION

The limit of detection of the assay has been calculated by means of the British Working Standard for anti-HCV, NIBSC code 99/588-003-WI. The table below reports the mean OD450nm values of this standard when diluted in negative plasma and then examined.

Dilution	Lot # 1	Lot # 2
Factor	S/Co	S/Co
1 X	2.0	2.0
2 X	1.1	1.2
4 X	0.7	0.8
8 X	0.5	0.5
Negative plasma	0.3	0.3

In addition the sample coded Accurun 1 – series 3000 - supplied by Boston Biomedica Inc., USA, has been evaluated "in loto" showing the results below:

CVAB.CE Lot ID	Accurun 1 Series	S/Co
1201	3000	1.5
0602	3000	1.5
1202	3000	1.9

In addition, n° 7 samples, tested positive for HCV Ab with Ortho HCV 3,0 SAVe, code 930820, lot. # EXE065-1, were diluted in HCV Ab negative plasma in order to generate limiting dilutions and then tested again on CVAB.CE, lot. # 1202, and Ortho.
The following table reports the data obtained.

Sample n°	Limit Dilution	CVAB.CE S/Co	Ortho 3.0 S/Co
1	256 X	1.9	1.3
2	256 X	1.9	0.7
3	256 X	2.4	1.0
4	128 X	2.5	3.2
5	85 X	3.3	1.4
6	128 X	2.2	0.8
7	135 X	3.2	2.2

2. DIAGNOSTIC SPECIFICITY AND SENSITIVITY

The Performance Evaluation of the device was carried out in a trial conducted on more than total 5000 samples.

2,1 Diagnostic specificity:

It is defined as the probability of the assay of scoring negative in the absence of specific analyte. In addition to the first study, where a total of 5043 unselected blood donors,(including 1st time donors), 210 hospitalized patients and 162 potentially interfering specimens (other infectious diseases, E.coli antibody positive, patients affected by non viral hepatic diseases, dialysis patients, pregnant women, hemolized, lipemic, etc.) were examined, the diagnostic specificity was recently assessed by testing a total of 2876 negative blood donors on six different lots. A value of specificity of 100% was found.
No false reactivity due to the method of specimen preparation has been observed. Both plasma, derived with different standard techniques of preparation (citrate, EDTA and heparin), and sera have been used to determine the value of specificity.
Frozen specimens have been tested, as well, to check for interferences due to collection and storage.
No interference was observed.

2.2 Diagnostic Sensitivity

It defined as the probability of the assay of scoring positive in the presence of specific analyte.
The diagnostic sensitivity has been assessed externally on a total number of 359 specimens; a diagnostic sensitivity of 100% was found. Internally more than other 50 positive samples were tested, providing a value of diagnostic sensitivity of again 100%.
Positive samples from infections carried out by different genotypes of HCV were tested as well.
Furthermore, most of seroconversion panels available from Boston Biomedica Inc., USA, (PHV) and Zeptometrix, USA, (HCV) have been studied.
Results are reported below for some of them.

Panel	N° samples	DiaPro*	Ortho* **
PHV 901	11	9	9
PHV 904	7	2	4
PHV 905	9	3	4
PHV 906	7	7	7
PHV 907	7	3	2
PHV 908	13	10	8
PHV 909	3	2	2
PHV 910	5	3	3
PHV 911	5	3	3
PHV 912	3	1	1
PHV 913	4	2	2
PHV 914	9	5	5
PHV 915	4	3	0
PHV 916	8	4	3
PHV 917	10	6	6
PHV 918	8	2	0
PHV 919	7	3	3
PHV 920	10	6	6
HCV 10039	5	2	0
HCV 6212	9	6	7
HCV 10165	9	5	4

*Note: * Positive samples detected* *** HCV v.3.0*

Finally the Product has been tested on the panel EFS Ac HCV, lot n° 01/08.03.22C/01/A, supplied by the Etablissement Francais Du Sang (EFS), France, with the following results:

EFS Panel Ac HCV

Sample	Lot # 1 S/Co	Lot # 2 S/Co	Lot # 2 S/Co	Results expected
HCV 1	2.2	2.4	2.6	positive
HCV 2	1.6	2.0	2.1	positive
HCV 3	1.5	1.7	1.6	positive
HCV 4	5.2	6.5	5.5	positive
HCV 5	1.6	1.8	1.6	positive
HCV 6	0.4	0.4	0.4	negative

3. PRECISION:
It has been calculated on two samples, one negative and one low positive, examined in 16 replicates in three separate runs. Results are reported as follows:

Lot # 1202

Negative Sample (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.094	0.099	0.096	0.096
Std.Deviation	0.008	0.007	0.008	0.007
CV %	8.7	6.6	7.9	7.7

Cal # 2 – 7K (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.396	0.403	0.418	0.406
Std.Deviation	0.023	0.029	0.027	0.026
CV %	5.9	7.1	6.4	6.5
S/Co	1.1	1.1	1.2	1.1

Lot # 0602

Negative Sample (N = 16)

Mean values	1st run	2nd run	3rd run	Average
OD 450nm	0.097	0.096	0.094	0.096
Std.Deviation	0.009	0.010	0.008	0.009
CV %	8.9	10.1	8.4	9.1

Cal # 2 – 7K (N = 16)

Mean values	1st run	2nd run	3rd run	Average value
OD 450nm	0.400	0.395	0.393	0.396
Std.Deviation	0.021	0.025	0.026	0.024
CV %	5.4	6.2	6.6	6.1
S/Co	1.2	1.2	1.1	1.2

Lot # 0602/2

Negative Sample (N = 16)

Mean values	1st run	2nd run	3rd run	Average
OD 450nm	0.087	0.091	0.088	0.089
Std.Deviation	0.009	0.007	0.008	0.008
CV %	10.0	8.2	8.6	8.9

Cal # 2 – 7K (N = 16)

Mean values	1st run	2nd run	3rd run	Average
OD 450nm	0.386	0.390	0.391	0.389
Std.Deviation	0.023	0.021	0.023	0.022
CV %	6.0	5.3	5.8	5.7
S/Co	1.1	1.2	1.2	1.2

The variability shown in the tables above did not result in sample misclassification.

5. LIMITATIONS
Repeatable false positive results, not confirmed by RIBA or similar confirmation techniques, were assessed as less than 0,1% of the normal population.
Frozen samples containing fibrin particles or aggregates after thawing have been observed to generate some false results.

REFERENCES

1. CDC. Public Health Service inter-agency guidelines for screening donors of blood, plasma, organs, tissues, and semen for evidence of hepatitis B and hepatitis C. MMWR 1991;40(No. RR-4):1-17.
2. Alter MJ. Epidemiology of hepatitis C. Hepatology 1997;26:62S-5S.
3. McQuillan GM, Aller MJ, Moyer LA, Lambert SB, Margolis HS. A population based serologic study of hepatitis C virus infection in the United States. In Rizzetto M, Purcell RH, Gerin JL, Verme G, eds. Viral Hepatitis and Liver Disease, Edizioni Minerva Medica, Turin, 1997, 267-70.
4. Dufour MC. Chronic liver disease and cirrhosis. In Everhart JE, ed. Digestive diseases in the United States: epidemiology and impact. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Washington, DC: US Government Printing Office, 1994; NIH publication no. 94-1447, 615-45.
5. Alter MJ, Hadler SC, Judson FN, et al. Risk factors for acute non-A, non-B hepatitis in the United States and association with hepatitis C virus infection. JAMA 1990;264:2231-35.
6. Aller HJ, Holland PV, Purcell RH, et al. Posttransfusion hepatitis after exclusion of commercial and hepatitis-B antigen-positive donors. Ann Intern Med 1972;77:691-9.
7. Alter HJ, Purcell RH, Holland PV, Feinstone SM, Morrow AG, Moritsugu Y. Clinical and serological analysis of transfusion-associated hepatitis. Lancet 1975;2:838-41.
8. Seeff LB, Wright EC, Zimmerman HJ, McCollum RW, VA Cooperative Studies Group. VA cooperative study of post-transfusion hepatitis and responsible risk factors. Am J Med Sci 1975;270:355-62.
9. Feinstone SM, Kapikian AZ, Purcell RH, Alter HJ, Holland PV. Transfusion-associated hepatitis not due to viral hepatitis type A or B. N Engl J Med 1975;292:767-70.
10. Choo QL, Kuo G, Weiner AJ, Overby LR, Bradley DW. Isolation of a cDNA clone derived from a blood-borne non-A, non-B viral hepatitis genome. Science 1989;244:359-62.
11. Kuo G, Choo QL, Alter HJ, et al. An assay for circulating antibodies to a major etiologic virus of human non-A, non-B hepatitis. Science 1989;244:362-4.
12. Alter HJ, Purcell RH, Shih JW, et al. Detection of antibody to hepatitis C virus in prospectively followed transfusion recipients with acute and chronic non-A, non-B hepatitis. N Engl J Med 1989;321:1494-1500.
13. Aach RD, Stevens CE, Hollinger FB, et al. Hepatitis C virus infection in post-transfusion hepatitis. An analysis with first- and second-generation assays. N Engl J Med 1991;325:1325-9.
14. Alter MJ, Margolis HS, Krawczynski K, Judson, FN, Mares A, Alexander WJ, et al. The natural history of community-acquired hepatitis C in the United States. N Engl J Med 1992;327:1899-1905.

15. Alter, MJ. Epidemiology of hepatitis C in the west. Semin Liver Dis 1995;15:5-14.
16. Donahue JG, Nelson KE, Muñoz A, et al. Antibody to hepatitis C virus among cardiac surgery patients, homosexual men, and intravenous drug users in Baltimore, Maryland. Am J Epidemiol 1991;134:1206-11.
17. Zeldis JB, Jain S, Kuramoto IK, et al. Seroepidemiology of viral infections among intravenous drug users in northern California. West J Med 1992;156:30-5.
18. Fingerhood MI, Jasinski DR, Sullivan JT. Prevalence of hepatitis C in a chemically dependent population. Arch Intern Med 1993;153:2025-30.
19. Garfein RS, Vlahov D, Galai N, Doherty, MC, Nelson, KE. Viral infections in short-term injection drug users: the prevalence of the hepatitis C, hepatitis B, human immunodeficiency, and human T-lymphotropic viruses. Am J Pub Health 1996;86:655-61.
20. Brettler DB, Alter HJ, Deinstag JL, Forsberg AD, Levine PH. Prevalence of hepatitis C virus antibody in a cohort of hemophilia patients. Blood 1990;76:254-6.
21. Troisi CL, Hollinger FB, Hoots WK, et al. A multicenter study of viral hepatitis in a United States hemophilic population. Blood 1993;81:412-8.
22. Kumar A, Kulkarni R, Murray DL, et al. Serologic markers of viral hepatitis A, B, C, and D in patients with hemophilia. J Med Virology 1993;41:205-9.
23. Tokars JI, Miller ER, Alter MJ, Arduino MJ. National surveillance of dialysis associated diseases in the United States, 1995. ASAIO Journal 1998;44:98-107.
24. Osmond DH, Charlebois E, Sheppard HW, et al. Comparison of risk factors for hepatitis C and hepatitis B virus infection in homosexual men. J Infect Dis 1993;167:66-71.
25. Weinstock HS, Bolan G, Reingold AL, Polish LB: Hepatitis C virus infection among patients attending a clinic for sexually transmitted diseases. JAMA 1993;269:392-4.
26. Thomas DL, Cannon RO, Shapiro CN, Hook EW III, Alter MJ. Hepatitis C, hepatitis B, and human immunodeficiency virus infections among non-intravenous drug-using patients attending clinics for sexually transmitted diseases. J Infect Dis 1994;169:990-5.
27. Buchbinder SP, Katz MH, Hessol NA, Liu J, O'Malley PM, Alter, MJ. Hepatitis C virus infection in sexually active homosexual men. J Infect 1994;29:263-9.
28. Thomas DL, Zenilman JM, Alter HJ, et al. Sexual transmission of hepatitis C virus among patients attending sexually transmitted diseases clinics in Baltimore—an analysis of 309 sex partnerships. J Infect Dis 1995;171:768-75.
29. Thomas DL, Factor SH, Kelen GD, Washington AS, Taylor E Jr, Quinn TC. Viral hepatitis in health care personnel at The Johns Hopkins Hospital. Arch Intern Med 1993;153:1705-12.
30. Cooper BW, Krusell A, Tilton RC, Goodwin R, Levitz RE. Seroprevalence of antibodies to hepatitis C virus in high-risk hospital personnel. Infect Control Hosp Epidemiol 1992;13:82-5.

All the IVD Products manufactured by the company are under the control of a certified Quality Management System approved by an EC Notified Body. Each lot is submitted to a quality control and released into the market only if conforming with the EC technical specifications and acceptance criteria.

Manufacturer:
Dia.Pro. Diagnostic Bioprobes Srl.
Via G. Carducci n° 27 – Sesto San Giovanni (MI) - Italy

CE
0318