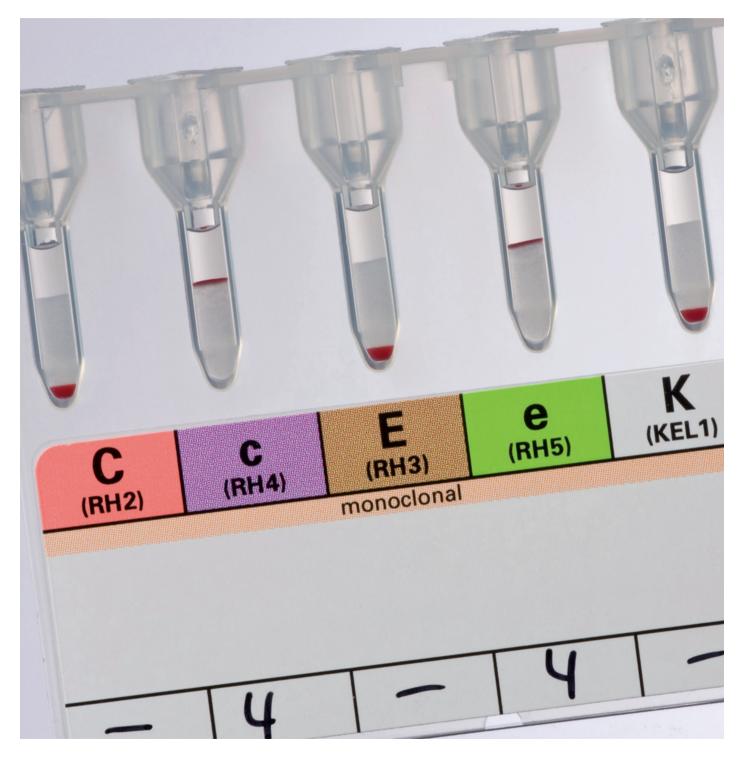
ID-System

Product Catalog





Bibliography

[1] Issitt,

P. D. + Anstee: Applied Blood Group Serology, 4th ed. 1998; Montgomery Scientific Publications, Miami, Florida, USA.

[2] Mollison P. L.,

Engelfriet C. P. and Contreras M.: Blood Transfusion in Clinical Medicine. 9th ed. 1993; Blackwell Scientific Publications, Oxford.

[3] Mollison P. L.,

Engelfriet, C.P. and Contreras,

M.: Blood Transfusion in Clinical Medicine, 10th ed. 1997; Blackwell Scientific Publications, Oxford.

[4] Daniels G.,

Human Blood Groups

publ.: Blackwell Science Ldt., 1995.

[5] Reid M.E., et al.

The BLOOD GROUP ANTIGEN Facts Book

Elsevier, 3rd Edition, ed. 2012.

BIO-RAD is a trademark of Bio-Rad Laboratories, Inc. DIACELL, DIAPANEL and IH-500 are trademarks of Bio-Rad Europe, GmbH in certain jurisdictions.



Blood Grouping ABO/D with Monoclonal Antibodies	4
Blood Grouping ABO/D with Double Determination of RhD	7
Blood Grouping ABO/D Combined with Reverse Grouping	9
Phenotyping Rh/K	11
A Subgroups	13
Typing of Partial RhD	14
Verification of weak D by IAT	15
Antigen Profiles	16
Single Antigen Testing	18
Reverse Grouping	32
Direct Antiglobulin Test (DAT)	33
Antibody Screening	36
Antibody Identification	38
Type and Screen	39
Compatibility Tests	40
Solutions for Red Cells and Reagents	43
Miscellaneous Solutions	45
Test Cells for Reverse Grouping	46
Test Cells for Reverse Grouping and Antibody Screening	47
Test Cells for Antibody Screening	48
Test Cells for Antibody Identification	56
Quality Control for Blood Group Serology	58

Blood Grouping ABO/D with Monoclonal Antibodies

Frequencies of the different ABO blood groups (according to Reid, M.E. [5]) in the Caucasian population:

0	44%
А	43%
В	9%
AB	4%

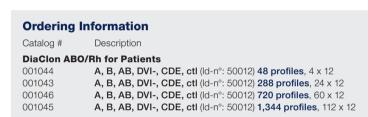
Current recommendations for RhD typing suggest that, for transfusion recipients and antenatal patients, anti-D

reagents should not detect the DVI phenotype. Individuals possessing the DVI phenotype may produce an anti-D to the missing epitopes after immunization by fetal or transfused RhD positive cells. To ensure that appropriate therapeutic measures are instigated, DVI patient's red cells should be assigned RhD negative status.

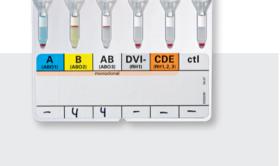
Conversely, donor bloods should be tested with anti-D that does detect DVI and assigned RhD positive status, to avoid the unit being transfused to an RhD negative or partial D patient.

DiaClon ABO/Rh for Patients

The ID-Card **DiaClon ABO/Rh for Patients** offers a complete test profile for forward typing of ABO, RhD (DVI neg.) and CDE in one single test procedure.



Cell lines: A: A5, B: G1/2, AB: ES131 (ES-15), Birma-1, ES-4, D: LHM59/20 (LDM3), 175-2, CDE: MS-24, MS-26, MS-201, MS-80



DiaClon ABD-Confirmation for Patients

The ABD confirmation ID-Card can be used for the ABO/D blood group control of patients.

Ordering	Information
Catalog #	Description
DiaClon AB	D-Confirmation for Patients
001254	A, B, DVI-, A, B, DVI- (ld-n°: 50053) 96 profiles , 4 x 12
001257	A, B, DVI-, A, B, DVI- (ld-n°: 50053) 576 profiles , 24 x 12
001256	A, B, DVI-, A, B, DVI- (ld-n°: 50053) 1,440 profiles , 60 x 12
001255	A, B, DVI-, A, B, DVI- (ld-n°: 50053) 2,688 profiles , 112 x 12
Cell lines: A:	LM297/628 (LA-2), B: LM306/686 (LB-2), D: TH28, RUM-1, LDM1



DiaClon ABO/Rh for Newborns DVI+

The ID-Card DiaClon ABO/Rh for Newborns DVI+

contains monoclonal antibodies.

The anti-D used will not react with all examples of weak D.

Ordering Information

Catalog # Description

DiaClon ABO/Rh for Newborns DVI+

 001047
 A, B, AB, DVI+, ctl, DAT (ld-n°: 50961) 48 profiles, 4 x 12

 001048
 A, B, AB, DVI+, ctl, DAT (ld-n°: 50961) 288 profiles, 24 x 12

 001049
 A, B, AB, DVI+, ctl, DAT (ld-n°: 50961) 720 profiles, 60 x 12

 001050
 A, B, AB, DVI+, ctl, DAT (ld-n°: 50961) 1,344 profiles, 112 x 12

Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), AB: ES131 (ES-15), Birma-1, ES-4, D: ESD-1M, 175-2



DiaClon ABO/Rh for Newborns DVI-

The monoclonal anti-D used in this ID-Card **DiaClon ABO/Rh** for **Newborns DVI-** has been selected so as not to react with variants DVI.

Ordering Information

Catalog # Description

DiaClon ABO/Rh for Newborns DVI-

001027 A, B, AB, DVI-, ctl, DAT (ld-n°: 50071) 48 profiles, 4 x 12 001030 A, B, AB, DVI-, ctl, DAT (ld-n°: 50071) 288 profiles, 24 x 12 001028 A, B, AB, DVI-, ctl, DAT (ld-n°: 50071) 720 profiles, 60 x 12 001029 A, B, AB, DVI-, ctl, DAT (ld-n°: 50071) 1,344 profiles, 112 x 12

Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), AB: ES131 (ES-15), Birma-1, ES-4, D: LDM3, 175-2



DiaClon ABO/Rh for Donors

This ID-Card for donors offers a complete test profile for forward typing of ABO, RhD and CDE in one single test procedure. The monoclonal anti-D used has been selected so as to react with variant DVI.

Ordering Information

Catalog # Description

DiaClon ABO/Rh for Donors

 001037
 A, B, AB, DVI+, CDE, ctl (ld-n°: 51011) 48 profiles, 4 x 12

 001033
 A, B, AB, DVI+, CDE, ctl (ld-n°: 51011) 288 profiles, 24 x 12

 001039
 A, B, AB, DVI+, CDE, ctl (ld-n°: 51011) 720 profiles, 60 x 12

 001038
 A, B, AB, DVI+, CDE, ctl (ld-n°: 51011) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, AB: ES131 (ES-15), Birma-1, ES-4, D: ESD-1M, 175-2, CDE: MS-24, MS-26, MS-201, MS-80



DiaClon ABD-Confirmation for Donors

For the ABO/D blood group control of donors.

Ordering Information

Catalog # Description

DiaClon ABD-Confirmation for Donors

 001134
 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 96 profiles, 4 x 12

 001133
 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 576 profiles, 24 x 12

 001136
 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 1,440 profiles, 60 x 12

 001135
 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 2,688 profiles, 112 x 12

Cell lines: **A:** LM297/628 (LA-2), **B:** LM306/686 (LB-2), **D:** ESD-1M, 175-2



DiaClon ABO/D

The first anti-D detects the presence of the variant DVI, the second anti-D is negative for the variant DVI. Both antibodies are monoclonal.

Ordering Information

Catalog # Description

DiaClon ABO/D

 001324
 A, B, AB, DVI+, DVI-, ctl (ld-n°: 50481) 48 profiles, 4 x 12

 001323
 A, B, AB, DVI+, DVI-, ctl (ld-n°: 50481) 288 profiles, 24 x 12

 001326
 A, B, AB, DVI+, DVI-, ctl (ld-n°: 50481) 720 profiles, 60 x 12

 001325
 A, B, AB, DVI+, DVI-, ctl (ld-n°: 50481) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, AB: ES131 (ES-15), Birma-1, ES-4, D: ESD-1M, 175-2, D: LHM59/20 (LDM3), 175-2



DiaClon ABO/D + DAT

With this ID-Card a complete profile for ABO forward typing and RhD status can be obtained in one single procedure, including a Direct Antiglobulin Test (DAT).

The two anti-D antibodies in the ID-Card are negative for the variant DVI.

The test procedure is thus suitable for patients and not recommended for donors.

Ordering Information

Catalog # Description

DiaClon ABO/D + DAT

 001344
 A, B, DVI-, DVI-, ctl, DAT (Id-n°: 50492) 48 profiles, 4 x 12

 001347
 A, B, DVI-, DVI-, ctl, DAT (Id-n°: 50492) 288 profiles, 24 x 12

 001346
 A, B, DVI-, DVI-, ctl, DAT (Id-n°: 50492) 720 profiles, 60 x 12

 001345
 A, B, DVI-, DVI-, ctl, DAT (Id-n°: 50492) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, D: LHM50/3 (LDM1), TH-28, RUM-1, D: LHM59/20 (LDM3), 175-2



DiaClon ABO/DVI- for Patients

This ID-Card is used for ABO forward blood grouping and double RhD determination for patients as well as for newborns. Please note that certain guidelines require the detection of DVI for newborns.

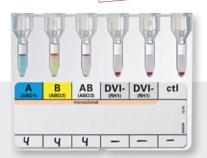
Ordering Information

Catalog # Description

DiaClon ABO/DVI- for Patients

001294 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52040) 48 profiles, 4 x 12 001297 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52040) 288 profiles, 24 x 12 001296 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52040) 720 profiles, 60 x 12

Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), AB: ES131 (ES-15), Birma-1, ES-4, D: LHM50/3 (LDM1), TH-28, RUM-1, D: LHM59/20 (LDM3), 175-2



Testing protocols for both

patients and newborns

Testing protocols for both

patients and newborns

DiaClon ABO/DVI-

This ID-Card is used for ABO forward blood grouping and double RhD determination for patients as well as for newborns. Please note that certain guidelines require the detection of DVI for newborns.

Ordering Information

Catalog # Description

DiaClon ABO/DVI-

001424 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52050) 48 profiles, 4 x 12 001427 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52050) 288 profiles, 24 x 12 001425 A, B, AB, DVI-, DVI-, ctl (ld-n°: 52050) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, AB: ES131 (ES-15), Birma-1, ES-4, D: LHM50/3 (LDM1), TH-28, RUM-1, D: LHM59/20 (LDM3), 175-2

A B (ABO2) ABO DVI- DVI- ctl (MSH1) MORGOSONAl

DiaClon ABO/DVI+/DVI- + DAT

With the ID-Card **DiaClon ABO/DVI+/DVI- + DAT** a complete profile for ABO forward typing and RhD status can be obtained in one single test procedure, including a Direct Antiglobulin Test (DAT).

The first anti-D detects the presence of the variant DVI, the second anti-D is negative for the variant DVI.

The test procedure may therefore be used for both patients and donors.

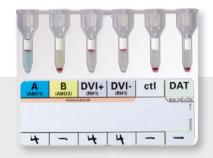
Ordering Information

Catalog # Description

DiaClon ABO/DVI+/DVI- + DAT

001374 **A, B, DVI+, DVI-, ctl, DAT** (ld-n°: 51160) **48 profiles**, 4 x 12 001376 **A, B, DVI+, DVI-, ctl, DAT** (ld-n°: 51160) **720 profiles**, 60 x 12

Cell lines: A: A5, B: G1/2, D: ESD-1M, 175-2, D: LHM59/20 (LDM3, 175-2)



DiaClon ABO/D + Reverse Grouping

The microtube ctl is the negative control. Two microtubes with *neutral* gel serve for reverse grouping with A_1 and B cells.

Ordering Information

Catalog # Description

DiaClon ABO/D + Reverse Grouping

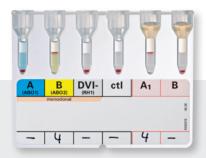
 001234
 A, B, DVI-, ctl/A₁, B (Id-n°: 50092) 48 profiles, 4 x 12

 001237
 A, B, DVI-, ctl/A₁, B (Id-n°: 50092) 288 profiles, 24 x 12

 001236
 A, B, DVI-, ctl/A₁, B (Id-n°: 50092) 720 profiles, 60 x 12

 001235
 A, B, DVI-, ctl/A₁, B (Id-n°: 50092) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, D: LHM59/20 (LDM3), 175-2



DiaClon ABO/D + Reverse Grouping

The ID-Card **DiaClon ABO/D + Reverse Grouping** allows combined testing of forward and reverse grouping as well as a double RhD determination with two anti-D selected to not detecting the variant DVI.

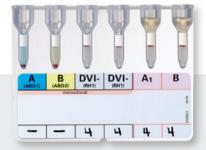
Ordering Information

Catalog # Description

DiaClon ABO/D + Reverse Grouping

001248 **A, B, DVI-, DVI-, A₁, B** (Id-n°: 50742) **288 profiles**, 60 x 12 001249 **A, B, DVI-, DVI-, A₁, B** (Id-n°: 50742) **1,344 profiles**, 112 x 12

Cell lines: A: A5, B: LB-2, D: LHM 50/3 (LDM1), TH-28, RUM-1, D: LHM 59/20 (LDM3), 175-2



DiaClon ABO/D (DVI+, DVI-) + Reverse Grouping

The ID-Card DiaClon ABO/D (DVI+, DVI-) + Reverse Grouping allows combined testing of forward and reverse grouping as well as a double RhD determination. The first anti-D is selected for detecting the variant DVI, the second anti-D is selected to be negative for the DVI variant.

The test procedure may therefore be used for both patients and donors.

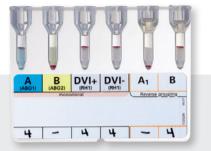
Ordering Information

Catalog # Description

DiaClon ABO/D (DVI+, DVI-) + Reverse Grouping

001386 A, B, DVI+, DVI-, A₁, B (Id-n°: 50981) 720 profiles, 60 x12

Cell lines: A: A5, B: G1/2, D: ESD-1M, 175-2, D: LHM 50/3 (LDM1), TH-28, RUM-1



DiaClon ABO/D + Reverse Grouping for Donors

The ID-Card DiaClon ABO/D + Reverse Grouping for Donors allows combined testing of forward and reverse grouping as well as RhD determination for confirmation of previously fully tested samples with established blood group status.

The monoclonal anti-D used has been selected so as to react with variant DVI.

Ordering Information

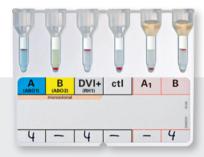
Catalog # Description

DiaClon ABO/D + Reverse Grouping for Donors

12010791 A, B, DVI+, ctI/A₁, B (Id-n°: 51090) 48 profiles, 4 x 12 001365 A, B, DVI+, ctl/A₁, B (ld-n°: 51090) 1,344 profiles, 112 x 12

Cell lines: A: A5, B: G1/2, D: ESD-1M, 175-2

Supplies on request (10 weeks delivery time)



Besides the RhD antigen, other important antigens of the Rh system are: C, E, c and e. According to Reid, M.E. [5], their frequencies in the Caucasian population are as follows:

С	68%
С	80%
Е	29%
е	98%
D	85%

Approximately 9% of the Caucasian population are K positive. The K antigen is strongly immunogenic. Anti-K has been reported as the cause of hemolytic transfusion reactions, both immediate and delayed, and hemolytic disease of the newborn.

DiaClon Rh-Subgroups + K

This ID-Card offers a complete profile of the Rh phenotype including K-typing.

Ordering Information

Catalog # Description DiaClon Rh-Subgroups + K

C, c, E, e, K, ctl (ld-n°: 50110) **48 profiles**, 4 x 12 002124 C, c, E, e, K, ctl (ld-n°: 50110) 288 profiles, 24 x 12 002127 **C, c, E, e, K, ctl** (ld-n°: 50110) **720 profiles**, 60 x 12 002126 002125 C, c, E, e, K, ctl (ld-n°: 50110) 1,344 profiles, 112 x 12

Cell lines: C: MS-24, c: MS-33, E: MS-260, e: MS-16, MS-21, MS-63, K: MS-56



DiaClon Rh + K Pheno II

Description

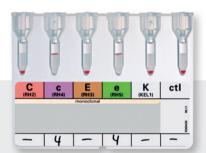
This ID-Card offers a complete profile of the Rh phenotype including K-typing.

Ordering Information

Catalog #

DiaClon Rh + K Pheno II 002224 **C, c, E, e, K, ctl** (ld-n°: 50710) **48 profiles**, 4 x 12 **C, c, E, e, K, ctl** (ld-n°: 50710) **288 profiles**, 24 x 12 002227 002226 C, c, E, e, K, ctl (ld-n°: 50710) 720 profiles, 60 x 12 C, c, E, e, K, ctl (ld-n°: 50710) 1,344 profiles, 112 x 12 002225

Cell lines: C: MS-273, P3x25513G8, c: 951, E: MS-80, MS-258, e: MS-62, P3GD512, K: AEK4



DiaClon Rh-Subgroups + Cw + K

The ID-Card **DiaClon Rh-Subgroups + C** + K** is designed for detection of the presence or absence of the C (RH2), C^* (RH8), c (RH4), E (RH3), e (RH5) and K (KEL1) antigens on human red blood cells, for manual use as well as on instruments.

Ordering Information

Catalog # Description

DiaClon Rh-Subgroups + C* + K

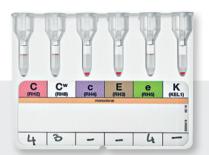
 002134
 C, Cw, c, E, e, K (Id-n°: 52000) 48 profiles, 4 x 12

 002137
 C, Cw, c, E, e, K (Id-n°: 52000) 288 profiles, 24 x 12

 002136
 C, Cw, c, E, e, K (Id-n°: 52000) 720 profiles, 60 x 12

 002135
 C, Cw, c, E, e, K (Id-n°: 52000) 1,344 profiles, 112 x 12

Cell lines: C: MS-273, P3x25513G8, Cw: MS-110, c: 951, E: MS-80, MS-258, e: MS-62, P3GD512, K: AEK4



Control Card A

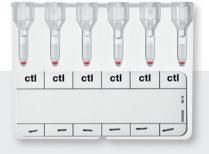
The ID-Card Control Card A is designed to validate the reactions obtained with the ID-Cards DiaClon Rh-Subgroups $+ C^w + K$ and DiaClon Anti- C^w .

Ordering Information

Catalog # Description

Control Card A

001711 **6 x ctl** (ld-n°: 52020) **72 tests**, 1 x 12 001714 **6 x ctl** (ld-n°: 52020) **288 tests**, 4 x 12



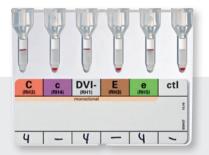
DiaClon RhD + Phenotype

This ID-Card offers a complete profile of the Rh phenotype and the monoclonal anti-D reagent has been selected so as not to react with variants DVI.

Ordering Information

Catalog # Description

DiaClon RhD + Phenotype



The reagent Anti-A₁ Absorbed agglutinates A₁ cells but reacts negatively or only weakly with A₂ cells.

Approximately 80% of group A or AB individuals have red cells that are agglutinated by anti-A1 and are thus classified as A₁ or A₁B.

Anti-A₁ Absorbed

ID-Card with 6 microtubes containing anti-A1, human, within the gel matrix.

Ordering Information

Catalog #

Description

Anti-A₁ Absorbed

001811

6 x A₁ (ld-n°: 50140) human 72 tests, 1 x 12



The H antigen is present on all human red cells, except those with the phenotype Oh (Bombay blood group). H is the precursor substance for A and B antigens.

For the classification of A subgroup status, anti-H should be used in conjunction with anti-A, anti-AB and anti-A1.

DiaClon Anti-H

ID-Card with 6 microtubes containing anti-H, monoclonal, within the gel matrix.

Ordering Information

Catalog # Description

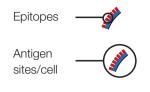
DiaClon Anti-H

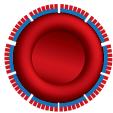
6 x H (ld-n°: 50150) 72 tests, 1 x 12 001911

Cell lines: H-86-50+H89/8



Typing of Partial RhD









Normal D-Antigen

Weak D

Partial D

Epitopes: Antigen sites/cell: Normal Normal Normal Reduced Reduced (Lacking) Normal or reduced

ID-Partial RhD Typing Set

For the Typing of Partial RhD

The **ID-Partial RhD Typing Set** consists of 6 monoclonal anti-D reagents that help further characterize the RhD antigen after routine RhD typing. The kit also contains 12 ID-Cards.

The reagents help with the differentiation of categories DII, DIV, DV, DVI, DVII, DFR, DBT and R_0^{Har} .



Catalog # Description

ID-Partial RhD Typing Set

001451 Test Kit ID-Partial RhD Typing Set (ld-n°: 46170), 12 tests

ID-Cards, 1 x 12 **ID-Anti-D 1-6**, 6 x 0.4 ml

Cell lines: LHM76/55, LHM77/64, LHM70/45, LHM59/19, LHM169/80, LDM1



Interpretation Table

Cell line	Anti-D	DII	DIII	DIVa	DIVb	DV	DVI	DVII	DFR	DBT	DHAR
LHM76/55 (IgG)	1	+	+	-	-	+	+	+	+	-	-
LHM77/64 (IgG)	2	-	+	-	-	+	+	+	+	-	-
LHM70/45 (IgG)	3	+	+	-	-	-	-	+	-	-	-
LHM59/19 (IgG)	4	+	+	+	+	+	-	+ _*	-	+	-
LHM169/80 (IgG)	5	+	+	+	+	+	-	+	+	-	-
LDM1 (IgM)	6	+	+	+	+	+	-	+	-	+	+

^{*} A weaker reaction can be observed with this antibody, in comparison with the other 5 sera.

ID-DiaClon Anti-D

For the confirmation of weak D by IAT

The increasing use of monoclonal anti-D from different cell lines can create problems in the interpretation of D antigen testing, in particular the differentiation of weak D and partial D.

ID-DiaClon Anti-D for confirmation of weak D by IAT containing monoclonal IgG anti-D supplied as a ready-to-use reagent in vials of 5 ml.

Ordering Information

Catalog # Description

ID-DiaClon Anti-D

(ld-n°: 09410) ESD1 100 tests, 1 x 5 ml 007531



Coombs Anti-IgG

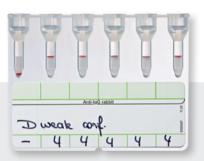
ID-Card Coombs Anti-IgG with 6 microtubes containing anti-human globulin anti-IgG (rabbit), within the gel matrix.

Ordering Information

Catalog # Description

Coombs Anti-IgG

004024 6 x AHG (Anti-IgG) (ld-n°: 50540) rabbit 288 tests, 4 x 12 **6 x AHG (Anti-IgG)** (ld-n°: 50540) rabbit **1,728 tests**, 24 x 12 004027 004026 6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 4,320 tests, 60 x 12 004025 6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 8,064 tests, 112 x 12



LISS/Coombs

Ordering Information

Catalog # Description

LISS/Coombs

004014 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 288 profiles, 4 x 12 004017 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 1,728 profiles, 24 x 12 004016 6 x AHG (Anti-lgG + C3d) tests (ld-n $^{\circ}$: 50531) rabbit 4,320 profiles, 60 x 12 004015 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 8,064 profiles, 112 x 12

C3d: cell line C139-9



Antigen Profiles

ABO and RhD compatible blood is used for transfusion. In certain cases, Rh phenotypes and the status of the Kell-System are also taken into account. Other blood group antigens are generally not considered. However, when a

clinically significant antibody is present, appropriate antigen negative blood should be used. For such cases, the rapid availability of fully typed donor blood is of great advantage. The ID-System facilitates complete antigen profiling.

ID-Antigen Profile I

In the ID-Card **ID-Antigen Profile I**, the gel suspensions contain the corresponding antibodies, requiring only the addition of the red cell suspension (in ID-Diluent 1).

Ordering Information

Catalog # Description

ID-Antigen Profile I

008510 **P₁, Le^a, Le^b, Lu^a, Lu^b, ctl** (ld-n°: 50372) **12 profiles**, 1 x 12

Cell lines: **P₁**: 650, **Le**^a: P3N20V3 + LM112/161, **Le**^b: LM129/181 Lu^a/Lu^b human antibodies



ID-Antigen Profile II

In the ID-Card **ID-Antigen Profile II**, the gel suspensions contain the corresponding antibodies, requiring only the addition of the red cell suspension (in ID-Diluent 1).

Ordering Information

Catalog # Description

ID-Antigen Profile II

008610 **k, Kp^a, Kp^b, Jk^a, Jk^b, ctl** (ld-n°: 50380) **12 profiles**, 1 x 12

Cell lines: **Jk**^a: MS-15, **Jk**^b: MS-8 k/Kp^a/Kp^b human antibodies



ID-Antigen Profile III

In the ID-Card ID-Antigen Profile III, the first 2 microtubes contain neutral gel and the last 4, gel with polyspecific anti-human globulin (AHG): the corresponding antibodies (ID-test sera, specially adapted for the ID-System) are added after the red cell suspension (in ID-Diluent 2).

- 4 - 3 3 3



Ordering Information

Description Catalog #

ID-Antigen Profile III

008701 ID-Card: M, N, S, s, Fya, Fyb (ld-no: 50390) 12 profiles, 1×12 Test sera ID-M, N, S, s, Fy a , Fy b (Id-n $^\circ$: 45140) **24 profiles**, 6 x 1.4 ml 008711 Test sera ID-M, N, S, s, Fya, Fyb (Id-no: 45460) 90 profiles, 6×5 ml* 008712

M/N monoclonal antibodies

Cell lines: M: LM110/140 (LM-1), N: 1422 C7

S/s/Fyª/Fyb human antibodies

^{*} Ideal for automation

DiaClon Anti-DVI neg.

ID-Card **DiaClon Anti-DVI neg.** with 6 microtubes containing a blend of monoclonal anti-D within the gel matrix. It is especially useful for confirmation of RhD determination, verification of negative reactions or when doubtful results with other methods (such as microplates, automated procedures) have been observed.

Ordering Information

Catalog # Description

DiaClon Anti-DVI neg.

001251 **6 x DVI neg.** (ld-n°: 50171) **72 tests**, 1 x 12 001252 **6 x DVI neg.** (ld-n°: 50171) **1,728 tests**, 24 x 12

Cell lines: TH-28, MS-26, 175-2



DiaClon Anti-Cw

The ID-Card **DiaClon Anti-C**^w is designed for the detection of the presence or absence of the C^w antigen (RH8) on human red blood cells, for manual use as well as on instruments.

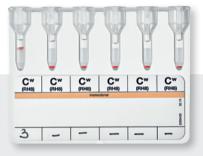
Ordering Information

Catalog # Description

DiaClon Anti-C^w

001321 **6 x C^w** (ld-n°: 52010) **72 tests**, 1 x 12

Cell line: MS-110



Control Card A

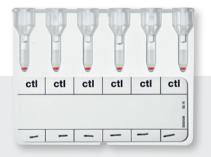
The ID-Card Control Card A is designed to validate the reactions obtained with the ID-Cards DiaClon Anti- C^w and DiaClon Rh-Subgroups + C^w + K.

Ordering Information

Catalog # Description

Control Card A

001711 **6 x ctl** (ld-n°: 52020) **72 tests**, 1 x 12 001714 **6 x ctl** (ld-n°: 52020) **288 tests**, 4 x 12



The KEL (Kell) system (ISBT, number 006) is currently known to contain 35 antigens, numbered K1 to K38 (K8, K9 and K15 are now obsolete). According to Reid, M.E. [5], the phenotype frequencies of the antithetical antigens K (KEL1) and k (KEL2) in the Caucasian population are as follows:

KK	0.2%
Kk	8.8%
kk	91%

The antibodies of the Kell system have been associated with transfusion reactions and hemolytic disease of the newborn (HDN). The clinical importance of anti-K has resulted in the systematic determination of the K and Cellano antigens in both donors and patients. The ID-Cards Anti-K and Anti-k can be used to determine the antigen status of donor blood prior to crossmatching, for confirmation of the antigen after antibody identification, or for paternal/fetal antigen typing in allo-immunized pregnancies.

Anti-K

Ordering Information

Catalog #

Description

Anti-K 002111

6 x K (ld-n°: 50190) human 72 tests, 1 x 12



DiaClon Anti-K

Ordering Information

Catalog #

Description

DiaClon Anti-K

6 x K (ld-n°: 50200) 72 tests, 1 x 12 002121

Cell line: MS-56



Anti-k

Ordering Information

Catalog #

Description

Anti-k

007251

6 x k (ld-n°: 50260) human 72 tests, 1 x 12



Anti-K/k

Ordering Information

Catalog #

Description

Anti-K/k

006021

K, k, ctl/K, k, ctl (ld-n°: 51220) human 24 tests, 1 x 12



Single Antigen Testing

M (MNS1) and N (MNS2) antigenic determinants are carried on glycophorin A (GPA), one of the major sialic acid containing structure of the red cell membrane. According to Reid, M.E. [5], the phenotype frequencies of the MN system in the Caucasian population are as follows:

MM	28%
MN	50%
NN	22%

DiaClon Anti-M

Ordering Information

Description Catalog #

DiaClon Anti-M

007011 **6 x M** (ld-n°: 50212) **72 tests**, 1 x 12

Cell lines: 9211 9D5 1G10



DiaClon Anti-N

Ordering Information

Catalog # Description

DiaClon Anti-N

6 x N (ld-n°: 50221) 72 tests, 1 x 12

Cell lines: 1422 C7+MN879



DiaClon Anti-M/N

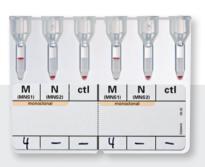
Ordering Information

Catalog # Description

DiaClon Anti-M/N

M, N, ctl/M, N, ctl (ld-n°: 51210) 24 tests, 1 x 12

Cell lines: M: 9211 9D5 1G10, N: 1422 C7+MN879



According to Reid, M.E. [5], the phenotype frequencies in the Caucasian population are:

Phenotype	Antigens	Frequency
P ₁	PP1P ^k	79%
P_2	PP ^k	21%
р	-	very rare
P_1^k	P1P ^k	very rare
P_2^k	P ^k	very rare

DiaClon Anti-P₁

Ordering Information

Catalog # Description

DiaClon Anti-P₁

007212 **6 x P₁** (ld-n°: 51180) **72 tests**, 1 x 12

Cell line: 650



Single Antigen Testing

Lewis antigens are absent or only poorly expressed on red cells from newborns. According to Reid, M.E. [5], the Lewis phenotype frequency in the Caucasian population is as follows:

Le(a-b+)	72%
Le(a+b-)	22%
Le(a-b-)	6%
Le(a+b+)	very rare*

^{*} more common in East Asia, South East Asia, the Pacific region and Australia

DiaClon Anti-Lea

Ordering Information

Catalog # Description

DiaClon Anti-Lea

6 x Le^a (ld-n°: 50242) 72 tests, 1 x 12 007221

Cell lines: P3N20V3 + LM112/161



DiaClon Anti-Leb

Ordering Information

Catalog # Description

DiaClon Anti-Leb

6 x Le^b (Id-n°: 50250) 72 tests, 1 x 12 007231

Cell lines: LM129/181 (LB1)



DiaClon Anti-Lea/Leb

Ordering Information

Catalog # Description DiaClon Anti-Lea/Leb

 Le^a , Le^b , ctl/Le^a , Le^b , ctl (Id-n°: 51241) **24 tests**, 1 x 12 006041

Cell lines: Lea: P3N20V3 + LM112/161, Leb: LM129/181 (LB1)



The antibodies of the Kidd system are often associated with severe hemolytic transfusion reactions (HTRs), notably delayed reactions. The transfusion of compatible blood in the Kidd system, where antibodies have previously been detected (or are suspected), is therefore important.

According to Reid, M.E. [5], the phenotype frequency of the antithetical Kidd antigens Jka and Jkb in the Caucasian population is as follows:

Jk(a+b-)	26%
Jk(a+b+)	50%
Jk(a-b+)	24%
Jk(a-b-)	exceedingly rare

DiaClon Anti-Jka

Ordering Information

Catalog # Description

DiaClon Anti-Jka

6 x Jka (ld-no: 50270) 72 tests, 1 x 12 007321

Cell line: MS-15



DiaClon Anti-Jkb

Ordering Information

Catalog # Description

DiaClon Anti-Jkb

6 x Jkb (ld-no: 50280) 72 tests, 1 x 12

Cell line: MS-8



DiaClon Anti-Jka/Jkb

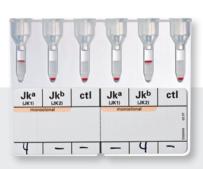
Ordering Information

Catalog # Description

DiaClon Anti-Jka/Jkb

006051 Jk^a , Jk^b , ctl/Jk^a , Jk^b , ctl (ld-n°: 51250) **24 tests**, 1 x 12

Cell lines: Jka: MS-15, Jkb: MS-8



Single Antigen Testing

Kp^a (KEL3), Kp^b (KEL4) and Kp^c (KEL21) are part of the Kell system (ISBT, number 006). Kpa is present in approximately 2% of the Caucasian population while Kpb is a high frequency (public) antigen. The Kpc antigen has an occurrence of less than 0.01% but up to 0.32% in Japanese.

Anti-Kp^a and anti-Kp^b are less common than anti-K but have similar serological characteristics and are considered to be clinically significant. They may occur after transfusion or by feto-maternal immunization.

According to Reid, M.E. [5], the phenotype frequency in the Caucasian population of the two most important antigens is as follows:

Kp(a+b-)	rare
Kp(a+b+)	± 2.3%
Kp(a-b+)	± 97.7%

Anti-Kpa

Ordering Information

Catalog #

Description

Anti-Kp^a

007301 6 x Kpa (Id-no: 50290) human 72 tests, 1 x 12



Anti-Kpb

Ordering Information

Catalog #

Description

Anti-Kpb 007311

6 x Kp^b (Id-n°: 50300) human **72 tests**, 1 x 12



Anti-Kpa/Kpb

Ordering Information

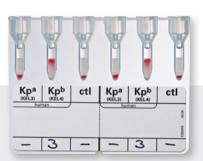
Catalog #

Description

Anti-Kpa/Kpb

006061

Kpa, Kpb, ctl/Kpa, Kpb, ctl (ld-no: 51260) human 24 tests, 1 x 12



Antibodies against antigens in the Lutheran system are not often encountered.

The antigen-antibody reaction produces small and loose agglutinates in a characteristic *mixed-field* appearance. The antigens are poorly developed at birth.

Allo anti-Lua has not been implicated in transfusion reactions and only rarely as causing mild hemolytic disease of the fetus and newborn (HDFN). Allo anti-Lub has been implicated in mild to moderate transfusion reactions and mild HDFN.

According to Reid, M.E. [5], the phenotype frequency of the Lutheran system in most population is as follows:

Lu(a+b-)	0.2%
Lu(a+b+)	7.4%
Lu(a-b+)	92.4%
Lu(a-b-)	rare

Anti-Lua

Ordering Information

Catalog # Description

Anti-Lu^a

007351 6 x Lu^a (Id-n°: 50310) human 72 tests, 1 x 12



Anti-Lub

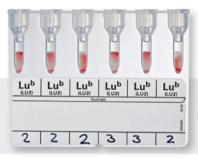
Ordering Information

Catalog #

Description

Anti-Lub 007361

6 x Lub (ld-no: 50320) human 72 tests, 1 x 12



Anti-Lua/Lub

Ordering Information

Catalog # Description

Anti-Lua/Lub

006031 Lua, Lub, ctl/Lua, Lub, ctl (ld-no: 51230) human 24 tests, 1 x 12



Single Antigen Testing

The antigens S (MNS3) and s (MNS4) are carried on the human glycophrin B (GPB) molecule and are part of the MNS system. Ss antibodies are not frequently encountered, however they have both been implicated in rare cases of severe hemolytic disease of the newborn and rare cases of mild to moderate hemolytic transfusion reactions, and are therefore clinically important.

Antigen typing of paternal or fetal/neonatal or donor bloods may therefore also be appropriate, according to the clinical situation.

According to Daniels, G. [4], the phenotype frequency of the antithetical antigens S and s in the Caucasian population is as follows:

SS	11%
Ss	44%
SS	45%

Test of Antigen S ID-Card S, Test Serum ID-Anti-S

Ordering Information

Catalog # Description ID-Card S, ID-Anti-S

007130 ID-Card S: 6 x S (ld-n°: 50330) 72 tests, 1 x 12

007131 Test serum ID-Anti-S (ld-n°: 09010) human 72 tests, 1 x 3.6 ml 007132 Test serum ID-Anti-S (Id-n°: 09010) human 90 tests, 1 x 5 ml*

* Ideal for automation



Test of Antigen s ID-Card s, Test Serum ID-Anti-s

Ordering Information

Catalog # Description ID-Card s, ID-Anti-s

007140 ID-Card s: 6 x s (ld-n°: 50340) 72 tests, 1 x 12

007141 Test serum ID-Anti-s (ld-n°: 09110) human 72 tests, 1 x 3.6 ml 007142 Test serum ID-Anti-s (Id-n°: 09110) human 90 tests, 1 x 5 ml*

* Ideal for automation



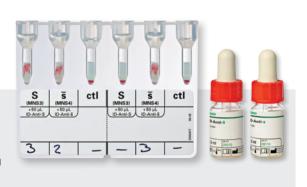
Test of Antigen S and s ID-Card S/s, Test Serum ID-Anti-S/s

Ordering Information

Catalog # Description ID-Card S/s, ID-Anti-S/s

006120 ID-Card S/s: S, s, ctl/S, s, ctl (ld-n°: 51280) 24 tests, 1 x 12 Test serum ID-Anti-S/s (Id-n°: 46190) human 28 tests, 2 x 1.4 ml 006121 007132 Test serum ID-Anti-S (Id-n°: 09010) human 90 tests, 1 x 5 ml* 007142 Test serum ID-Anti-s (ld-n°: 09110) human 90 tests, 1 x 5 ml*

* Ideal for automation



Both Duffy antigens are fully developed at birth. Fy^a frequently causes immunization while Fyb is rarely the cause of immunization. Anti-Fy^a and anti-Fy^b are practically always of immune origin.

They both cause hemolytic transfusion reactions and can, although not frequently, cause hemolytic disease of the newborn (HDN).

According to Reid, M.E. [5], the phenotype frequency of the Duffy blood groups is as follows:

	Caucasian	Blacks	Chinese	Japanese	Thai
Fy(a+b-)	17%	9%	90.80%	81.50%	69%
Fy(a-b+)	34%	22%	0.30%	0.90%	3%
Fy(a+b+)	49%	1%	8.90%	17.60%	28%
Fy(a-b-)	very rare	68%	0%	0%	0%

Test of Antigen Fy^a ID-Card Fy^a, Test Serum ID-Anti-Fy^a

Ordering Information

Catalog # Description ID-Card Fy^a, ID-Anti-Fy^a

ID-Card Fya: 6 x Fya (ld-no: 50350) **72 tests**, 1 x 12 007270

007271 Test serum ID-Anti-Fy^a (ld-n°: 09210) human 72 tests, 1 x 3.6 ml 007272 Test serum ID-Anti-Fy^a (ld-n°: 09210) human 90 tests, 1 x 5 ml*

* Ideal for automation





Test of Antigen Fyb ID-Card Fyb, Test Serum ID-Anti-Fyb

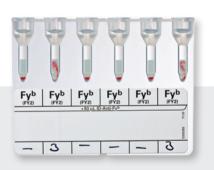
Ordering Information

Catalog # Description ID-Card Fy^b, ID-Anti-Fy^b

007280 ID-Card Fyb: 6 x Fyb (ld-no: 50360) 72 tests, 1 x 12

Test serum ID-Anti-Fy^b (Id-n°: 09310) human **72 tests**, 1 x 3.6 ml 007281 007282 Test serum ID-Anti-Fy^b (ld-n°: 09310) human 90 tests, 1 x 5 ml*

* Ideal for automation





Test of Antigen Fy^a and Fy^b, ID-Card Fy^a/Fy^b, Test Serum ID-Anti-Fy^a/Fy^b

Ordering Information

Catalog # Description

ID-Card Fyª/Fyb, ID-Anti-Fyª/Fyb

 006110
 ID-Card Fy³/Fyb: Fy³, Fyb, ctl/Fy³, Fyb, ctl (Id-nº: 51270) 24 tests, 1 x 12

 006111
 Test serum ID-Anti-Fy³/Fyb (Id-nº: 46180) human 28 tests, 2 x 1.4 ml

 007272
 Test serum ID-Anti-Fy³ (Id-nº: 09210) human 90 tests, 1 x 5 ml*

 007282
 Test serum ID-Anti-Fyb (Id-nº: 09310) human 90 tests, 1 x 5 ml*

* Ideal for automation

The i antigen, strongly present on fetal red blood cells, slowly disappears during the first 2 years of life developing mostly into I activity. Anti-i are considered to be autoantibodies and may cause Cold Agglutinin Disease (CAD).

Rare antisera (human, lyophilized) for use with the ID-Card NaCl, Enzyme Test and Cold Agglutinins.

2 2

ID-Anti-I

Ordering Information

Catalog # Description

ID-Anti-I

According to availability



ID-Anti-i

Ordering Information

Catalog # Description

ID-Anti-i

007380 **ID-Anti-i: vial** (ld-n°: 08880) **10 tests**, 1 x 0.5 ml



Single Antigen Testing

When an alloantibody specificity is suspected or defined in either a donor or a patient's blood sample, the red cells should be tested with an appropriate antiserum to confirm lack of the corresponding antigen. Specific antigen negative blood may be required for crossmatching prior to transfusion to a recipient with a known alloantibody.

Typing of paternal or fetal/neonatal antigens on red cells can also be an important procedure in assessing and monitoring risk in an allo-immunized pregnancy.

Bio-Rad ID-Test sera for use by Indirect Antiglobulin Test (IAT) with the ID-Card LISS/Coombs are human sera containing incomplete antibodies.

According to Reid, M.E. [5], the phenotype frequency of these rare antigens are as follows:

High frequency			Low frequ	uency
Vel	99.96%		Cob	10%
U	99.90%	Whites	Vw	< 0.06%
	99.00%	Blacks	Wr ^a	< 0.01%
Xg ^a	66.00%	Male	Jsª	< 0.01%
	89.00%	Female	Di ^a	0.01 to 54% (South America Indians)
Js ^b	100.00%	Whites		
	99.00%	Blacks		

Rare antisera (human, lyophilized) for use with the ID-Card LISS/Coombs.

ID-Anti-Cob

Ordering Information

Catalog # Description

ID-Anti-Cob

ID-Anti-Cob: vial (Id-no: 08900) 10 tests, 1 x 0.5 ml

According to availability



ID-Anti-Jsa

Ordering Information

Description Catalog #

ID-Anti-Js^a

007400 ID-Anti-Jsa: vial (ld-no: 08840) 10 tests, 1 x 0.5 ml



ID-Anti-Jsb

Ordering Information

Catalog # Description

ID-Anti-Jsb

007390 **ID-Anti-Js^b: vial** (ld-n°: 08860) **10 tests**, 1 x 0.5 ml

According to availability



ID-Anti-Wra

Ordering Information

Catalog # Description

ID-Anti-Wra

007410 **ID-Anti-Wr**^a: vial (ld-n°: 09060) **10 tests**, 1 x 0.5 ml

According to availability



ID-Anti-Dia

Ordering Information

Catalog # Description

ID-Anti-Dia

007420 **ID-Anti-Di^a: vial** (ld-n°: 09080) **10 tests**, 1 x 0.5 ml

According to availability



ID-Anti-Vel

Ordering Information

Catalog # Description

ID-Anti-Vel

007430 **ID-Anti-Vel: vial** (ld-n°: 09140) **10 tests**, 1 x 0.5 ml



ID-Anti-Vw

Ordering Information

Description Catalog #

ID-Anti-V^w

ID-Anti-V*: vial (ld-n°: 08940) 10 tests, 1 x 0.5 ml 007450

According to availability



ID-Anti-Xga

Ordering Information

Catalog # Description

ID-Anti-Xg^a

ID-Anti-Xga: vial (ld-no: 08960) 10 tests, 1 x 0.5 ml 007460

According to availability



ID-Anti-U

Ordering Information

Catalog # Description

ID-Anti-U

007470 ID-Anti-U: vial (Id-n°: 08980) 10 tests, 1 x 0.5 ml

According to availability



ID-Anti-Tja

With the ID-Card Coombs Anti-IgG

The antibody anti-PP1Pk, previously known as anti-Tja is in fact a mixture of anti-P + P1 + Pk. Cells which fail to react with this antibody are more correctly described as having the p phenotype. This phenotype is very rare in most parts of the world though a little more common in Japan and Sweden. It can be important as individuals with the p phenotype develop a naturally occurring anti-PP1Pk, which has been implicated in both severe transfusion reactions and hemolytic disease of the newborn, although rare. Antibodies directed against P and/or Pk antigens are associated with a high rate of spontaneous abortion.

Ordering Information

Catalog # Description

ID-Anti-Tja

007490 ID-Anti-Tja: vial (ld-no: 09040) 10 tests, 1 x 0.5 ml

Reverse Grouping with Antibody Screening

The ID-Card Reverse Grouping with Antibody Screening is used with the test cell reagents ID-DiaCell ABO/I-II or ID-DiaCell ABO/I-II-III, allowing reverse grouping and antibody screening (Indirect Antiglobulin Test at room temperature) in an easy single test procedure. It provides following combinations of test profiles, according to individual needs: A₁-A₂-B-O/I-II, A₁-A₂-B/I-II-III, A₁-A₂-B/Ac-I-II or A₁-A₂-B/DAT-I-II.

(Please check your local/national guidelines before using these products for conformity)



Ordering Information

Catalog # Description

Reverse Grouping with Antibody Screening

003014 A_1 , A_2 , B, O/I, II or A_1 , A_2 , B/I, II, III or A_1 , A_2 , B/I, II, AC (Id-n°: 50510) 48 profiles, 4×12 003017 A₁, A₂, B, O/I, II or A₁, A₂, B/I, II, III or A₁, A₂, B/I, II, AC (Id-n°: 50510) 288 profiles, 24 x 12 A_1 , A_2 , B, O/I, II or A_1 , A_2 , B/I, II, III or A_1 , A_2 , B/I, II, AC (Id-n°: 50510) 720 profiles, 60×12 003016 A_1 , A_2 , B, O/I, II or A_1 , A_2 , B/I, II, III or A_1 , A_2 , B/I, II, AC (Id-n°: 50510) 1,344 profiles, 112 x 12 003015

NaCl, Enzyme Test and Cold Agglutinins

The ID-Card NaCl, Enzyme Test and Cold Agglutinins is suitable for antibody screening and identification

procedures, compatibility testing and reverse grouping.



Ordering Information

Catalog # Description

NaCl, Enzyme Test and Cold Agglutinins

005014 A₁, A₂, B/A₁, A₂, B or A₁, B/A₁, B/A₁, B or IP, IIP, IIIP or IP, IIP, AC (Id-n°: 50520) 96/144 profiles, 4 x 12 A₁, A₂, B/A₁, A₂, B or A₁, B/A₁, B/A₁, B or IP, IIP, IIIP or IP, IIP, AC (Id-n°: 50520) 576/864 profiles, 24 x 12 005017 005016 A₁, A₂, B/A₁, A₂, B or A₁, B/A₁, B/A₁, B or IP, IIP, IIIP or IP, IIP, AC (Id-n°: 50520) 1,440/2,160 profiles, 60 x 12 005015 A₁, A₂, B/A₁, A₂, B or A₁, B/A₁, B/A₁, B or IP, IIP, IIIP or IP, IIP, AC (Id-n°: 50520) 2,688/4,032 profiles, 112 x 12

LISS/Coombs

The most important function of the polyspecific AHG reagent is to detect the presence of IgG. The importance of anti-complement in the AHG reagent is debatable since antibodies detectable only by their ability to bind complement are rather rare. However, anti-C3d activity is important for the DAT in the investigation of autoimmune hemolytic anemia (AIHA). A positive DAT generally indicates that the red cells are coated in vivo with immunoglobulin and/or complement.

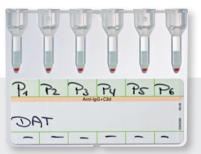
Ordering Information

Catalog # Description

LISS/Coombs

004014 6 x AHG (Anti-IgG + C3d) (Id-n°: 50531) rabbit 288 tests, 4 x 12 004017 6 x AHG (Anti-IgG + C3d) (Id-n°: 50531) rabbit 1,728 tests, 24 x 12 004016 6 x AHG (Anti-IgG + C3d) (Id-n°: 50531) rabbit 4,320 tests, 60 x 12 004015 6 x AHG (Anti-IgG + C3d) (Id-n°: 50531) rabbit 8,064 tests, 112 x 12

C3d: cell line C139-9



Coombs Anti-IgG

Some users prefer to use anti-IgG AHG serum because there is no interference from complement components which may be non-specifically bound to the red cell.

Ordering Information

Description Catalog #

Coombs Anti-IgG

6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 288 tests, 4 x 12 004024 004027 6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 1,728 tests, 24 x 12 6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 4,320 tests, 60 x 12 004026 004025 6 x AHG (Anti-IgG) (Id-n°: 50540) rabbit 8,064 tests, 112 x 12



Direct Antiglobulin Test (DAT)

A positive Direct Antiglobulin Test (DAT) with polyspecific anti-human globulin (AHG) generally indicates that the red cells are coated *in vivo* with immunoglobulin and/or complement.

To differentiate the reaction, monospecific AHG reagents are used, such as anti-IgG, -IgA, -IgM, -C3c and -C3d.

DC-Screening I

Ordering Information

Catalog # Description

DC-Screening I

 $\begin{array}{lll} 004851 & \textbf{IgG, IgA, IgM, C3c, C3d, ctl} \; (\text{Id-n}^\circ: 50830) \; \textbf{12 profiles}, \; 1 \times 12 \\ 004857 & \textbf{IgG, IgA, IgM, C3c, C3d, ctl} \; (\text{Id-n}^\circ: 50830) \; \textbf{288 profiles}, \; 24 \times 12 \\ 004856 & \textbf{IgG, IgA, IgM, C3c, C3d, ctl} \; (\text{Id-n}^\circ: 50830) \; \textbf{720 profiles}, \; 60 \times 12 \\ \end{array}$

IgG: rabbit, IgA: rabbit, IgM: rabbit, C3c: rabbit, C3d: cell line C139-9



DC-Screening II

Ordering Information

Catalog # Description

DC-Screening II

IgG: rabbit, C3d: cell line C139-9



DAT IgG-Dilution

The numbers of IgG molecules per cell influence the accelerated red cell destruction seen in Autoimmune Hemolytic Anemia (AIHA), Hemolytic Disease of the Newborn (HDN) and transfusion reactions.

The ID-Card DAT IgG-Dilution provides an indication of the clinical importance of the DAT positive result.

To further estimate the risk of hemolysis the differentiation of the IgG1 and IgG3 subclasses should be performed by using the ID-Card DAT IgG1/IgG3.

1:30 | 1:100 | 1:300 | 1:1000 | 3 3 2 1

Ordering Information

Catalog # Description

DAT IgG-Dilution

1:10, 1:30, 1:100, 1:300, 1:1,000, ctl (ld-n°: 50870) rabbit 12 profiles, 1 x 12 004033

DAT IgG1/IgG3

In the ID-Card DAT IgG1/IgG3, 2 dilutions of both anti-IgG1 and IgG3 are added to the gel, to allow the differentiation between low and high risk for hemolysis.

A positive reaction with the first dilution has a sensitivity of approximately 1,000 lgG1 and 125 lgG3 molecules/cells respectively. A positive reaction with the second dilution indicates a high concentration of anti-IgG1 and/or IgG3 antibodies.

Ordering Information

Description Catalog #

DAT IgG1/IgG3

004043 IgG subclasses (Id-n°: 50890) 12 profiles, 1 x 12

IgG1: cell line M345/795, IgG3: cell line M346/805



DiaScreen

The ID-Card **DiaScreen** consists of 4 microtubes containing polyspecific AHG for the IAT and 2 microtubes containing neutral gel for the two-stage enzyme technique.

Ordering Information

Catalog # DiaScreen

004704 4 x AHG tests/2 x enzyme tests (ld-n°: 50571) 48 profiles, 4 x 12 004707 4 x AHG tests/2 x enzyme tests (ld-n°: 50571) 288 profiles, 24×12 004706 4 x AHG tests/2 x enzyme tests (Id-n°: 50571) 720 profiles, 60 x 12 004705 4 x AHG tests/2 x enzyme tests (Id-n°: 50571) 1,344 profiles, 112 x 12

AHG: rabbit, C3d: cell line C139-9



LISS/Coombs + Enzyme Test

The ID-Card LISS/Coombs + Enzyme Test offers complete antibody screening for one donor or patient in an easy single step, when used in conjunction with ID-DiaCell I-II-III test cell reagents for the Indirect Antiglobulin Test (IAT) procedure and ID-DiaCell IP-IIP-IIIP papainized test cell reagents for the two-stage enzyme technique.

Ordering Information

Description Catalog # LISS/Coombs + Enzyme Test

004514 3 x AHG tests/3 x enzyme tests (ld-n°: 50581) 48 profiles, 4 x 12 004517 3 x AHG tests/3 x enzyme tests (ld-n°: 50581) 288 profiles, 24 x 12 004516 3 x AHG tests/3 x enzyme tests (ld-n°: 50581) 720 profiles, 60 x 12 004515 3 x AHG tests/3 x enzyme tests (ld-n $^{\circ}$: 50581) 1,344 profiles, 112 x 12

AHG: rabbit, C3d: cell line C139-9



LISS/Coombs

Ordering Information

Catalog # Description

LISS/Coombs

6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 288 profiles, 4 x 12 004014 004017 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 1,728 profiles, 24 x 12 004016 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 4,320 profiles, 60 x 12 004015 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 8,064 profiles, 112 x 12

C3d: cell line C139-9



Coombs Anti-IgG

Ordering Information

Catalog # Description

Coombs Anti-IgG

004024 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 288 profiles, 4 x 12 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 1,728 profiles, 24 x 12 004027 004026 **6 x AHG (Anti-IgG) tests** (Id-n°: 50540) rabbit **4,320 profiles**, 60 x 12 004025 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 8,064 profiles, 112 x 12



NaCl, Enzyme Test and Cold Agglutinins

The ID-Card NaCl, Enzyme Test and Cold Agglutinins is suitable for antibody screening and identification procedures, compatibility testing and reverse grouping.

It is not considered necessary to include the room temperature saline test in routine antibody screening procedures, but the saline test at 4°C can be used to detect cold agglutinins.

Ordering Information

Catalog # Description

NaCl, Enzyme Test and Cold Agglutinins

005014 6 x tests (ld-n°: 50520) 288 profiles, 4 x 12 005017 6 x tests (ld-n°: 50520) 1,728 profiles, 24 x 12 005016 6 x tests (ld-n°: 50520) 4,320 profiles, 60 x 12 005015 6 x tests (ld-n°: 50520) 8,064 profiles, 112 x 12



LISS/Coombs

Ordering Information

Catalog # Description

LISS/Coombs

004014 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 288 profiles, 4 x 12 004017 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 1,728 profiles, 24 x 12 004016 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 4,320 profiles, 60 x 12 004015 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 8,064 profiles, 112 x 12

C3d: cell line C139-9



Ordering Information

Catalog # Description

Coombs Anti-IgG

004024 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 288 profiles, 4 x 12 004027 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 1,728 profiles, 24 x 12 004026 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 4,320 profiles, 60 x 12 004025 $6 \times AHG$ (Anti-IgG) tests (Id-n°: 50540) rabbit 8,064 profiles, 112 x 12



The ID-Card NaCl, Enzyme Test and Cold Agglutinins is suitable for antibody screening and identification

procedures, compatibility testing and reverse grouping.

It is not considered necessary to include the room temperature saline test in routine antibody screening procedures, but the saline test at 4°C can be used to detect cold agglutinins.

Ordering Information

Catalog # Description

NaCl, Enzyme Test and Cold Agglutinins

005014 6 x tests (ld-n°: 50520) 288 profiles, 4 x 12 005017 **6 x tests** (ld-n°: 50520) **1,728 profiles**, 24 x 12 005016 6 x tests (ld-n°: 50520) 4,320 profiles, 60 x 12 005015 6 x tests (ld-n°: 50520) 8,064 profiles, 112 x 12









DiaClon Type + Screen

Under certain rigorous conditions, compatibility tests before a blood transfusion may be replaced by Type and Screen testing (T/S) of the recipient.

The Type and Screen test must not be used to replace full crossmatch where the crossmatch is designated as a mandatory procedure by the national regulatory body.

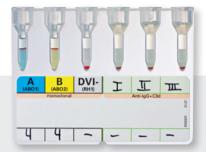
Ordering Information

Catalog # Description

DiaClon Type + Screen

002437 **A, B, DVI-/3 x AHG** (ld-n°: 50682) **48 profiles**, 4 x 12 002431 **A, B, DVI-/3 x AHG** (ld-n°: 50682) **288 profiles**, 24 x 12 002439 **A, B, DVI-/3 x AHG** (ld-n°: 50682) **720 profiles**, 60 x 12 002438 **A, B, DVI-/3 x AHG** (ld-n°: 50682) **1,344 profiles**, 112 x 12

Cell lines: A: A5, B: G1/2, D: LHM59/20 (LDM3), 175-2, AHG: rabbit, C3d: cell line C139-9



Compatibility Tests

The methods used in compatibility tests should include those that will demonstrate ABO and RhD incompatibility and detect clinically significant unexpected antibodies.

The ID-Card **DiaClon Complete Crossmatch** is configured to meet the above requirements in one easy step:

- ABD-confirmation of both donor and/or recipient
- Major crossmatch test by the Indirect Antiglobulin Test (IAT)
- Major enzyme crossmatch test
- Autocontrol (IAT test)

DiaClon Complete Crossmatch

Ordering Information

Catalog # Description

DiaClon Complete Crossmatch

 004614
 A, B, DVI-/Enz./2 x AHG (ld-n°: 50601) 48 profiles, 4 x 12

 004617
 A, B, DVI-/Enz./2 x AHG (ld-n°: 50601) 288 profiles, 24 x 12

 004616
 A, B, DVI-/Enz./2 x AHG (ld-n°: 50601) 720 profiles, 60 x 12

 004615
 A, B, DVI-/Enz./2 x AHG (ld-n°: 50601) 1,344 profiles, 112 x 12

Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), D: LHM59/20 (LDM3), 175-2, AHG: rabbit, C3d: cell line C139-9



LISS/Coombs

Ordering Information

Catalog # Description

LISS/Coombs

 004014
 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 288 profiles, 4 x 12

 004017
 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 1,728 profiles, 24 x 12

 004016
 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 4,320 profiles, 60 x 12

 004015
 6 x AHG (Anti-IgG + C3d) tests (Id-n°: 50531) rabbit 8,064 profiles, 112 x 12

C3d: cell line C139-9



Coombs Anti-IgG

Ordering Information

Catalog # Description

Coombs Anti-IgG

004024 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 288 profiles, 4 x 12 004027 6 x AHG (Anti-IgG) tests (ld-n $^{\circ}$: 50540) rabbit 1,728 profiles, 24 x 12 004026 **6 x AHG (Anti-IgG) tests** (Id-n°: 50540) rabbit **4,320 profiles**, 60 x 12 004025 6 x AHG (Anti-IgG) tests (Id-n°: 50540) rabbit 8,064 profiles, 112 x 12



NaCl, Enzyme Test and Cold Agglutinins

Ordering Information

Catalog # Description

NaCl, Enzyme Test and Cold Agglutinins

6 x tests (ld-n°: 50520) 288 profiles, 4 x 12 005014 005017 **6 x tests** (ld-n°: 50520) **1,728 profiles**, 24 x 12 005016 6 x tests (ld-n°: 50520) 4,320 profiles, 60 x 12 6 x tests (ld-n°: 50520) 8,064 profiles, 112 x 12 005015



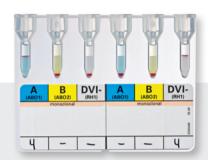
Compatibility Tests

To ensure that appropriate therapeutic measures are instigated, DVI patients' red cells should be assigned Rh negative status. Conversely, donor bloods should be tested with anti-D that does detect DVI and assigned Rh positive status, to avoid the unit being transfused to an RhD negative or partial D patient.

DiaClon ABD-Confirmation for Patients

The ABD confirmation ID-Card can be used for the ABO/D blood group control of patients.

Ordering Information Catalog # Description **DiaClon ABD-Confirmation for Patients A, B, DVI-/A, B, DVI-** (Id-n°: 50053) **96 profiles**, 4 x 12 001254 001257 **A, B, DVI-/A, B, DVI-** (Id-n°: 50053) **576 profiles**, 24 x 12 001256 **A, B, DVI-/A, B, DVI-** (ld-n°: 50053) **1,440 profiles**, 60 x 12 001255 A, B, DVI-/A, B, DVI- (Id-n°: 50053) 2,688 profiles, 112 x 12 Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), D: TH28, RUM-1, LDM1



DiaClon ABD-Confirmation for Donors

The ABD confirmation ID-Card can be used for the ABO/D blood group control of donors.

Ordering Information Catalog # Description **DiaClon ABD-Confirmation for Donors** 001134 **A, B, DVI+/A, B, DVI+** (Id-n°: 51051) **96 profiles**, 4 x 12 001133 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 576 profiles, 24 x 12 001136 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 1,440 profiles, 60 x 12 001135 A, B, DVI+/A, B, DVI+ (Id-n°: 51051) 2,688 profiles, 112 x 12 Cell lines: A: LM297/628 (LA-2), B: LM306/686 (LB-2), D: ESD-1M, 175-2



ID-Diluent 1

ID-Diluent 1 is a modified bromelin solution in which the enzyme activity is stabilised for a long period, specially prepared for the ID-System. ID-Diluent 1 is used for preparing suspensions of red cells for blood grouping and as an additive for enzyme tests with untreated red cells for antibody detection and crossmatching.

ID-Diluent 1 WITH HER PERSON

Ordering Information

Description Catalog #

ID-Diluent 1

009160 Modified Bromelin solution for red cell suspensions and enzyme tests (ld-n°: 05751), 2 x 100 ml 009180 Modified Bromelin solution for red cell suspensions and enzyme tests (Id-n°: 05751), 1 x 500 ml

ID-Diluent 1 rack for IH-Analyzers

Modified Bromelin solution for red cell suspensions and enzyme tests (ld-n $^{\circ}$: 05751), 10 racks with 60 x 700 μ l

ID-Diluent 2

ID-Diluent 2 is a modified low ionic strength solution made for the ID-System, for preparing 5% red cell suspensions for blood grouping as well as 0.8% red cell suspensions for crossmatching, autocontrol, direct anti-human globulin test, blood grouping of newborns and test cells prepared in the laboratory.

Ordering Information

Description Catalog #

ID-Diluent 2

009260 Modified LISS for red cell suspensions (ld-n°: 05761), 2 x 100 ml 009280 Modified LISS for red cell suspensions (ld-n°: 05761), 1 x 500 ml

ID-Diluent 2 rack for IH-Analyzers

Modified LISS for red cell suspensions (ld-n°: 05761), 10 racks with 60 x 700 µl



Solutions for Red Cells and Reagents

ID-CellStab

ID-CellStab is a specially formulated glycine buffered saline which stabilizes red cells at 0.8% suspension for use in the ID-System for up to 4 weeks after preparation.

Ordering Information

Catalog #

Description

ID-CellStab

005650 Stabilisation solution for red cells (ld-n°: 05740), 1 x 500 ml 005660 Stabilisation solution for red cells (ld-n°: 05740), 2 x 100 ml



ID-CellWash-P

When required, red cells can be papainized by the blood group laboratory, using ID-Papain, a standardized liquid papain solution. After treatment of the red cells with papain, the cells must be washed with the specially prepared ID-CellWash-P.

Ordering Information

Catalog #

Description

ID-CellWash-P

005550

Wash solution for papainized red cells (ld-n $^{\circ}$: 05710), 1 x 500 ml



ID-Papain

ID-Papain is a standardized liquid papain solution and may be used for pre-treating red cells by laboratories that prepare their own red cell reagents, or may be used as an enzyme additive reagent in a one stage technique.

Ordering Information

Catalog #

Description

ID-Papain

005510 005511

Papain solution for papainizing red cells (ld-n°: 06311), 1 x 10 ml Papain solution for papainizing red cells (ld-n°: 06311), 10 x 10 ml

Stability 7 weeks, shipment on standing order, every 4 weeks



ID-Titration Solution

ID-Titration Solution is a dilution medium intended to be used for the titre determination of antibodies in patient and/or donor samples with the ID-System.

Combined with ID-Titration Rack, ID-Titration Solution can be used with IH-500 which leads to a higher accuracy in the dilution procedure and a better reliability of the overall titration process.

ID-Titration Solution is also suitable for manual use with the ID-System.

Ordering Information

Catalog # Description **ID-Titration Solution**

009360 Standardized medium for titration (Id-n°: 05780), 10 x 10 ml

ID-Titration Rack

009390 Empty racks for the use on IH-500 (Id-n°: 05770), 10 racks of 60 wells



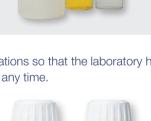
Ordering Information

Catalog # Description

DiaCidel

108230 For acid elution of serological antibodies (Id-n°: 45630), 10 tests

We developed two special buffers for easy freezing and thawing of red cells, allowing the preservation of interesting antigen configurations so that the laboratory has rare red cells available at any time.



DiaMed CellFreeze

Ordering Information

Catalog # Description

DiaMed CellFreeze

005702 Freezing solution for long term storage of red cells (ld-n°: 40230), 2 x 100 ml



DiaMed CellThaw

Ordering Information

Catalog # Description

DiaMed CellThaw

005712 Thawing solution for frozen red cells (ld-n°: 40240), 2 x 100 ml





Test Cells for Reverse Grouping

Isoagglutinins (natural occurring antibodies, anti-A, anti-B, anti-AB) are cold reactive antibodies which react best at 4°C. However, they are also reactive at room temperature

and may react at 37° C. They involve a mixture of IgM and IgG. The largest proportion, however, belongs to the IgM class.

ID-DiaCell ABO

All test cell reagents are of human origin, in a buffered suspension medium at 0.8% (\pm 0.1%).

Ordering Information

Catalog # Description

ID-DiaCell ABO

003619	Set of 4 vials A ₁ , A ₂ , B, O (Id-n°: 45022) 200 tests, 4 x 10 m
003617	Set of 3 vials A ₁ , A ₂ , B (Id-n°: 45082) 200 tests, 3 x 10 ml
003615	Set of 3 vials A ₁ , B, O (ld-n°: 45352) 200 tests, 3 x 10 ml
003624	Set of 2 vials A ₁ , B (ld-n°: 45092) 200 tests, 2 x 10 ml
003620	Single vial: A ₁ (ld-n°: 06012) 200 tests, 1 x 10 ml
003621	Single vial: A ₂ (ld-n°: 06022) 200 tests, 1 x 10 ml
003622	Single vial: B (Id-n°: 06032) 200 tests, 1 x 10 ml
003623	Single vial: O (Id-n°: 06042) 200 tests, 1 x 10 ml

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaCell ABO/I-II-III

Ordering Information

Catalog # Description ID-DiaCell ABO/I-II-III

Set of 6 vials A_1 , A_2 , B/I, II, III (ld-n°: 45012) 200 tests, $6 \times 10 \text{ ml}$

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaCell ABO/I-II

Ordering Information

Catalog # Description ID-DiaCell ABO/I-II

Set of 6 vials A₁, A₂, B, O/I, II (ld-n°: 45002) 200 tests, 6 x 10 ml

Stability 7 weeks, shipment on standing order every 4 weeks



Test Cells for Antibody Screening

ID-DiaScreen I-VI/Antigen Table (example)

	Dh hu	Danas				R	h			Kell							iffy	Ki	dd	Lewis F		Р		MI	NS		Lu	th.	Х	(g
	Rh-hr	Donor		D	С	Ε	С	е	Cw	K	k	Kpa	Кр ^b	Jsª	Jsb	Fya	Fy ^b	Jka	Jkb	Lea	Leb	P ₁	M	N	S	s	Lua	Lub	Xgª	F/M
I	CwCD.ee	R ₁ WR ₁	675479	+	+	0	0	+	+	0	+	0	+	0	+	0	+	+	+	0	0	0	+	+	0	+	0	+	+	F
II	ccD.EE	R_2R_2	001251	+	0	+	+	0	0	0	+	0	+	0	+	+	+	+	0	+	0	+	0	+	+	+	+	+	+	М
Ш	ccddee	rr	060556	0	0	0	+	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+	+	+	+	0	0	+	+	М
IV	CCD.ee	R ₁ R ₁	887567	+	+	0	0	+	0	0	+	+	+	0	+	+	0	+	+	0	+	+	+	0	0	+	0	+	0	М
٧	CwCD.ee	$R_1^{\text{W}}\!R_1$	928899	+	+	0	0	+	+	+	+	0	+	0	+	0	+	0	+	+	0	+	+	+	+	+	0	+	+	F
VI	ccD.EE	R_2R_2	158648	+	0	+	+	0	0	0	+	0	+	0	+	+	+	+	0	0	+	+	+	0	+	+	0	+	+	М

Antigen tables are available electronically on ih-area.bio-rad.com and a printed version is provided with the products.

Fixed Rh Pattern I-IV: R_1R_1 (C*)/ R_2R_2 /rr/any Rh (or C*)

Four group O, RhD positive cells: C*CDee $(R_1^WR_1)$, ccDEE (R_2R_2) and CCDee (R_1R_1) , one RhD negative cell: ccddee (rr)	Enabling you to detect Rh-antibodies showing dosage
One cell K+	Enabling you to detect anti-K, a frequent antibody, alone or in combination
At least one cell double dose $Fy^a,Fy^b,Jk^a,Jk^b,$ M, S and s	Enabling you to detect antibodies often showing dosage
All cells tested serologically for HLA-related antigens	Minimises nuisance caused by insignificant reactivity
Kpa, Cw and Lua positive	Additional security and convenience
At least one cell positive for Lea, Leb, P_1 and N	

Fixed Rh Pattern V-VI: R₁^wR₁, R₂R₂

One cell is homozygous Jk(a+b-)	Enabling detection of anti-Jk ^a showing dosage
One cell is Le(a+b-), the other Le(a-b+)	Additional security and convenience
One cell is C ^w positive	Additional security and convenience

ID-DiaScreen

Expanded six-cell screening

- All the features of 3-cell screening
- PLUS two papain-treated cells
- PLUS one cell Kp(a+)
- PLUS one cell Lu(a+)

Ordering Information

Catalog # Description

ID-DiaScreen

005311

Set of 6 vials for IAT and enzyme test I, II, III, IV, V, VI 004316

R₁ R₂ R₂, rr, Kp²/R₁ R₁, R₂ R₂ papainized (ld-n°: 45070) **200 tests**, 6 x 10 ml

004311 Set of 4 vials for IAT, I, II, III, IV

R₁^wR₁, R₂R₂, rr, Kp^a (ld-n°: 45200) **200 tests**, 4 x 10 ml

Set of 2 vials for enzyme test V, VI

R₁^wR₁, R₂R₂ papainized (Id-n°: 45210) 200 tests, 2 x 10 ml

Stability 7 weeks, shipment on standing order every 4 weeks



To use with ID-Cards LISS/Coombs or Anti-IgG

Screening maternal samples after anti-D prophylaxis

- One RhD positive and five RhD negative cells
- Double dose for Fya, Fyb, Jka, Jkb, M, S and s
- At least one cell positive for K, Lea, Leb, P1 and N
- Tested by serology for HLA Class I antigens

Ordering Information

Catalog # Description

ID-DiaScreen Prophylax

004330 Set of 6 vials for IAT R_1R_2 , r'r, r", rr, rr, rr, rr (ld-n°: 45660) 100 tests, 6×5 ml

Stability 7 weeks, shipment on standing order every 4 weeks





Test Cells for Antibody Screening

ID-DiaCell I-II-III/Antigen Table (example)

	Rh-hr	Donor				R	h					K	ell			Du	iffy	Ki	dd	Lev	wis	Р		MI	NS		Lu	th.	Х	(g
	nii-iii	DOILOI		D	С	Ε	С	е	Cw	K	k	Kpa	Кр ^b	Jsª	Jsb	Fy ^a	Fy ^b	Jkª	Jkb	Lea	Le ^b	P ₁	M	N	S	S	Lua	Lub	Xg ^a	F/M
1	CwCD.ee	$R_1^W R_1$	754456	+	+	0	0	+	+	0	+	0	+	0	+	+	+	0	+	+	0	+	+	0	+	0	0	+	0	М
II	ccD.EE	R_2R_2	047144	+	0	+	+	0	0	0	+	+	+	0	+	+	0	+	+	0	+	0	+	+	+	+	0	+	+	М
Ш	ccddee	rr	101469	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	0	0	+	+	0	+	0	+	+	+	+	F

Antigen tables are available electronically on ih-area.bio-rad.com and a printed version is provided with the products.

Fixed Rh Pattern I-III: R₁^wR₁/R₂R₂/rr

Three group O, RhD positive cells: CCDee (R_1R_1) and ccDEE (R_2R_2) and one RhD negative cell: cc.ee (rr)	Enabling you to detect Rh-antibodies showing dosage
One cell K+	Enabling you to detect anti-K, alone or in combination
At least one cell double dose $Fy^a,Fy^b,Jk^a,Jk^b,$ M, S and s	Enabling you to detect antibodies often showing dosage
All cells tested serologically for HLA-related antigens	Minimises nuisance caused by insignificant reactivity
Kp ^a and Lu ^a positive if available	Additional security and convenience
At least one cell positive for Lea, Leb, P_1 and N	

Cells from the same three individual donors available also in papain treaded format as ID-DiaCell IP-IIP-IIIP Increased sensitivity in the detection of antibodies in the Rh, Kidd and Lewis blood group systems Antibodies to enzyme-sensitive antigens will not be detected: Duffy, MNS and Xg blood group system

ID-DiaCell I-II-III

Three-cell screening for patients

- Two RhD positive cells (CCDee, C^w+, ccDEE) and one cell RhD negative (ccddee)
- Double dose for Fya, Fyb, Jka, Jkb, M, S and s
- At least one cell positive for K, Lea, Leb, P1 and N
- Tested by serology for HLA Class I antigens

Ordering Information

Catalog # Description

ID-DiaCell I-II-III

004310 Set of 3 vials for IAT and NaCl test $R_1^w R_1$, $R_2 R_2$, rr (Id-n°: 45184) 200 tests, 3×10 ml

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaCell IP-IIP-IIIP

Three-cell screening for patients (papainized)

Ordering Information

Catalog # Description

ID-DiaCell IP-IIP-IIIP

Set of 3 vials for enzyme test $R_1^w R_1$, $R_2 R_2$, rr papainized (ld-n°: 45194) 200 tests, $3 \times 10 \text{ m}$

Stability 7 weeks, shipment on standing order every 4 weeks



Test Cells for Antibody Screening

ID-DiaCell I-II/Antigen Table (example)

	Rh-hr	Donor				R	h					K	ell			Du	iffy	Ki	dd	Lev	vis	Р		MI	NS		Lu	th.	Х	(g
	MII-III	Donor		D	С	Е	С	е	Cw	K	k	Kpa	Кр ^ь	Jsª	Jsb	Fy ^a	Fy ^b	Jka	Jkb	Lea	Le ^b	P ₁	M	N	S	s	Lua	Lub	Xgª	F/M
I	CCD.ee	R_1R_1	950823	+	+	0	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	F
II	ccD.EE	R_2R_2	090901	+	0	+	+	0	0	0	+	0	+	0	+	+	0	+	0	0	+	+	+	0	+	0	+	+	+	F

Antigen tables are available electronically on ih-area.bio-rad.com and a printed version is provided with the products.

Fixed Rh Pattern I-II: R₁R₁, R₂R₂

Two group O, RhD positive cells: CCDee (R $_1$ R $_1$) and ccDEE (R $_2$ R $_2$)	Enabling you to detect Rh-antibodies showing dosage
One cell K+	Enabling you to detect anti-K, alone or in combination
One cell Fy(a+b-), one cell Jk(a+b-)	Enabling you to detect anti-Fyª/anti-Jkª showing dosage
At least one cell positive for $Fy^{\text{b}},Jk^{\text{b}},Le^{\text{b}},P_{1},M,N,$ S and s	Enabling you to detect clinically significant antibodies
All cells tested serologically for HLA-related antigens	Minimises nuisance caused by insignificant reactivity

ID-DiaCell I-II

Two-cell screening for donors

- Two RhD positive cells (CCDee and ccDEE)
- Double dose for Fy^a and Jk^a
- At least one cell positive for K, Fyb, Jkb, Lea, Leb, P1, M, N,
- Tested by serology for HLA Class I antigens



Ordering Information

Catalog # Description

ID-DiaCell I-II

003613 Set of 2 vials for IAT and NaCl test R₁R₁, R₂R₂ (ld-n°: 45151) 200 tests, 2 x 10 ml

Stability 7 weeks, shipment on standing order every 4 weeks

ID-DiaCell I-II-III Asia (Mia+)

Three-cell screening for patients

- Two RhD positive cells (CCDee and ccDEE)
- Double dose for Fy^a and Jk^a
- A least one cell positive for K, Fyb, Jkb, Lea, Leb, P1, M, N, S, s and Mia
- Tested by serology for HLA Class I antigens



Ordering Information

Catalog # Description

ID-DiaCell I-II-III Asia

Set of 3 vials for IAT and NaCl test R_1R_1 , R_2R_2 , Mi^a+ (Id-n°: 45330) 200 tests, $3 \times 10 \text{ m}$

Stability 7 weeks, shipment on standing order every 4 weeks According to availability

ID-Dia (Diego) Positive

Ordering Information

Catalog # Description ID-Dia (Diego) Positive

Stability 7 weeks, shipment on standing order every 4 weeks



ID-I Negative Cell

Ordering Information

Catalog # Description

ID-I Negative Cell

004111 Single vial (ld-n°: 06291) **32 tests**, 1 x 1.6 ml

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaCell Pool

Ordering Information

Catalog # Description

ID-DiaCell Pool

 $\begin{array}{lll} \text{003630} & \textbf{2 pooled cells for IAT test R}_1\text{R}_1, R}_2\text{R}_2 \text{ (ld-n}^\circ\text{: 06070)} \textbf{ 200 tests}, 1 \text{ x 10 ml} \\ \text{003631} & \textbf{2 pooled cells for IAT test R}_1\text{R}_1, R}_2\text{R}_2 \text{ (ld-n}^\circ\text{: 06070)} \textbf{ 600 tests}, 3 \text{ x 10 ml} \\ \end{array}$

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaPanel 1-11/Antigen Table (example)

	Dh. hu	Danas				R	h					K	ell			Du	ffy	Ki	dd	Lev	vis	Р		MI	NS		Lu	th.	Х	(g
	Rh-hr	Donor		D	С	Ε	С	е	Cw	K	k	Kpa	Кр ^b	Jsª	Jsb	Fy ^a	Fy ^b	Jka	Jkb	Lea	Le ^b	P ₁	M	N	S	s	Lua	Lub	Xg ^a	F/M
1	CwCD.ee	R ₁ WR ₁	677783	+	+	0	0	+	+	0	+	0	+	0	+	+	0	+	0	0	+	+	+	0	+	0	0	+	+	
2	CCD.ee	R ₁ R ₁	113683	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	0	+	0	+	0	+	0	+	0	
3	ccD.EE	R_2R_2	422278	+	0	+	+	0	0	0	+	0	+	0	+	+	+	0	+	0	+	+	+	+	+	0	0	+	+	
4	Ccddee	r'r	293832	0	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	0	+	+	+	+	+	0	+	+	
5	ccddEe	r''r	307849	0	0	+	+	+	0	0	+	0	+	0	+	+	+	+	+	0	+	+	+	+	0	+	+	+	0	
6	ccddee	rr	308478	0	0	0	+	+	0	+	+	0	+	0	+	0	+	0	+	0	0	+	0	+	0	+	0	+	nt	
7	ccddee	rr	439656	0	0	0	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	+	0	+	+	0	+	+	
8	ccD.ee	Ror	032656	+	0	0	+	+	0	0	+	0	+	0	+	0	0	+	0	0	0	+	0	+	0	+	0	+	0	
9	ccddee	rr	341656	0	0	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	+	0	0	+	0	+	0	+	0	
10	ccddee	rr	454253	0	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	+	0	0	+	+	0	0	+	+	
11	ccddee	rr	169276	0	0	0	+	+	0	0	+	+	+	0	+	+	0	+	+	0	+	+	+	0	0	+	0	+	+	

[■] Two K+ cells, one D neg and one c neg ■ D neg cells (cc.ee), positive for Lewis ■ D neg cells, double dose cells for Duffy, Kidd and MNS

Combined papain-treated and untreated panel — Fixed Rh pattern

Antigen tables are available electronically on ih-area.bio-rad.com and a printed version is provided with the products.

Fixed Rh pattern 1-11: R₁^wR₁/R₁/R₁/R₂/r'r/r"r/rr/Ror/rr/rr/rr

11 group O adult cells	Allows identification of most single antibodies and simple antibody mixtures
Fixed Rh pattern	Allows identification of most single antibodies and simple antibody mixtures in the Rh system
Minimum 2, maximum 3 K+ cells; one CCDee, other(s) ccddee	Allows identification of anti-K, alone or underlying anti-c/anti-D
Minimum 2, preferably 3 cells double dose for Fya, Fyb, Jka, Jkb, M, N, S and s	Allows identification of specific antibodies, even when they show dosage, and will allow underlying antibodies to be ruled out
Minimum 2 cells negative for Le ^a , Le ^b and P ₁	Allows identification of specific antibodies, and will allow underlying antibodies to be ruled out
On the ccddee cells, minimum 1 cell homozygous for Fya, Fyb, Jka, Jkb, M, N, S and s	Allows identification of specific antibodies underlying anti-D, anti-CD, anti-CDE, including those showing dosage
On the ccddee cells, minimum 1 cell positive for Le $^{\rm a}$, Le $^{\rm b}$ and P $_{\rm 1}$	Allows identification of specific antibodies underlying anti-D, anti-CD and anti-CDE
Minimum 2, maximum 3 Le(a-b-) cells	Allows identification of anti-Le ^a and Le ^b , common in prenatal patients and in Black populations
When available, one of the CCDee cells will be K+; Fy(a-b+) and the other K-; Fy(a+b-)	Allows identification of anti-K and/or anti-Fy ^a underlying anti-c
One cell is always Fy(a-b-)	Allows identification of antibodies underlying anti-Fy $^{\rm a}$ or anti-Fy $^{\rm b}$ or to identify unusual antibodies in the Duffy system
Standard and papain-treated panels	Offers improved efficiency and time saving and allows identification of routine, weak and complex antibody problems

[■] A Fy(a-b-) cell ■ CCDee; K-; Fy(a+b-) CCDee; K+; Fy(a-b+) ■ Fixed Rh pattern

ID-DiaPanel

Test Cells for Antibody Identification

- Fixed Rh phenotype pattern
- Assured presence of cells possessing double-dose antigens throughout
- Five ccddee cells carefully selected to assure double-dose of significant blood group antigens
- Tested by serology for HLA Class I antigens

Ordering Information

Catalog # Description

ID-DiaPanel

004114 Set of 11 vials for IAT and NaCl test (ld-n°: 45161) 80 tests, 11 x 4 ml

Stability 7 weeks, shipment on standing order every 4 weeks



ID-DiaPanel Plus 6

Selected cells for complex problems

- all double dose for the significant blood group antigens
- One of the e-negative cells is K+
- Alternating presence of a CCDEe/CcDEE cell
- Two additional c-negative, and two additional e-negative cells, Alternating presence of a cell lacking a high incidence or possessing a low incidence antigen
 - Tested by serology for HLA Class I antigens

Ordering Information

Catalog # Description

ID-DiaPanel Plus 6

Set of 6 vials for IAT and NaCl test (ld-n°: 45670) 80 tests, 6 x 4 ml

Stability 12 weeks, shipment on standing order every 8 weeks



ID-DiaPanel-P

Test cells for antibody identification in two-step papain test

Ordering Information

Catalog # Description

ID-DiaPanel-P

004214 Set of 11 vials for enzyme test, papainized (Id-n°: 45171) 80 tests, 11 x 4 ml

Stability 7 weeks, shipment on standing order every 4 weeks



IH-QC Modular System

Transfusion guidelines recommend regular checking of test materials, test methods, local working instructions and automated equipment/instruments used. The control sample should always have the same characteristics as a patient sample and therefore be treated identically.

These activities are intended to ensure accuracy and safety of the blood grouping serological results. The controls should be carried out at regular intervals. Please refer to local/national guidelines.

IH-QC 1

4 tubes containing 6 ml of a human red blood cells suspension (Hct 15%).

Ordering Information

Catalog # Description

IH-QC 1

009321 Set of 4 tubes (Id-n°: 08710), 4 x 6 ml, 1 Set

Supplies on standing order, every 4 weeks



IH-QC 2

4 tubes containing 6 ml of a human red blood cells suspension (Hct 15%).

Ordering Information

Catalog # Description

IH-QC 2

Set of 4 tubes (Id-n°: 08720), 4 x 6 ml, 1 Set 009322

Supplies on standing order, every 4 weeks



IH-QC 3

4 tubes containing 6 ml of a human red blood cells suspension (Hct 15%).

Ordering Information

Catalog # Description

IH-QC 3

Set of 4 tubes (Id-n°: 08730), 4 x 6 ml, 1 Set 009323

Supplies on standing order, every 4 weeks



IH-QC 4

4 tubes containing 6 ml of a human red blood cells suspension (Hct 15%).

Ordering Information

Catalog #

Description

IH-QC 4

009324 Set of 4 tubes (Id-n°: 08740), 4 x 6 ml, 1 Set

Supplies on standing order, every 4 weeks



IH-QC 5

4 tubes containing 6 ml of a human red blood cells suspension (Hct 15%).

Ordering Information

Catalog #

Description

IH-QC 5 009325

Set of 4 tubes (Id-n°: 08750), 4 x 6 ml, 1 Set

Supplies on standing order, every 4 weeks



Intended Use

IH-QC 1, IH-QC 2, IH-QC 3, IH-QC 4 and IH-QC 5 are intended to control the ID-System manually and/or with instruments for the determination of the ABO system,

Rh (RH) system, Kell (KEL) system, and/or further immunohematology tests as listed below.

ANALYSIS	IH-QC 1	IH-QC 2	IH-QC 3	IH-QC 4	IH-QC 5
ABO forward and/or reverse grouping	•	*	*	•	•
RhD typing	*	*	*	•	•
Rh/K phenotyping	*	*	*	•	*
Antibody screening/identification, Indirect Antiglobulin Test (IAT)	*	*	*	*	*
Antibody screening/identification, 2 stage papain technique	* *	*	*	*	*
Crossmatch, Indirect Antiglobulin Test (IAT)	*	*	*	•	*
Direct Antiglobulin Test (DAT)	~	~	*	~	~

^{*} Additional information on the IH-QC 1. For a limited period of time, the 2 stage papain method is not available. For further information, please contact your local Bio-Rad contact point.

Quality Control for Blood Group Serology

IH-QC6

1 tube containing 6 ml of a human red blood cells suspension (Hct 10%).

Ordering Information

Catalog # Description

IH-QC 6

009326 **Single tube** (ld-n°: 08760), 1 x 6 ml

Supplies on standing order, every 4 weeks



IH-QC 7

1 tube containing 6 ml of a human red blood cells suspension (Hct 10%).

Ordering Information

Catalog # Description

IH-QC 7

009327 **Single tube** (ld-n°: 08770), 1 x 6 ml

Supplies on standing order, every 4 weeks



IH-QC8

1 tube containing 6 ml of a human red blood cells suspension (Hct 10%).

Ordering Information

Catalog # Description

IH-QC 8

009328 **Single tube** (ld-n°: 08780), 1 x 6 ml

Supplies on standing order, every 4 weeks



Intended Use

IH-QC 6, IH-QC 7 and IH-QC 8 are intended to control the ID-System manually and/or with instruments for the immunohematology tests listed below.

ANALYSIS	IH-QC 6	IH-QC 7	IH-QC 8
Direct Antiglobulin Test (DAT)	~	*	*
RhD typing: direct testing and IAT	*	×	×

Reagent Characteristics

	ABO	RH	K	FY	Antibodie	s	DAT
IH-QC 1	A ₁ [AB0:1,-2,3,4]	ddccee (rr), Cw- [RH:-1,-2,-3,4,5,-8]	K+ [KEL:1]	N/A	Anti-B [Anti-AB02]	Anti-D 0.05 IU/ml [Anti-RH1]	Neg
IH-QC 2	B [ABO:-1,2,3]	DCcEe (R ₁ R ₂), C ^w - [RH:1,2,3,4,5,-8]	K- [KEL:-1]	Fy(a-) [FY:-1]	Anti-A [Anti-AB01]	Anti-Fyª [Anti-FY1]	Neg
IH-QC 3	AB [AB0:1,2,3]	DCCee (R ₁ R ₁), C ^w - [RH:1,2,-3,-4,5,-8]	K- [KEL:-1]	N/A	Anti-c [Anti-RH4]		Neg
IH-QC 4	0 [AB0:-1,-2,-3]	DccEE (R ₂ R ₂), C ^w - [RH:1,-2,3,4,-5,-8]	K- [KEL:-1]	N/A	Anti-A and Anti-B [Anti-AB01 and Anti-AB02]	Anti-K [Anti-KEL1]	Neg
IH-QC 5	A ₂ [AB0:1,-2,3,-4]	DCcee (R ₁ r), C ^w - [RH:1,2,-3,4,5,-8]	K- [KEL:-1]	N/A	Anti-B* [Anti-AB02]		Neg
IH-QC 6	N/A	Weak D [RH:W1]	N/A	N/A	N/A		Neg
IH-QC 7	N/A	N/A	N/A	N/A	N/A		Pos [lgG]
IH-QC 8	N/A	N/A	N/A	N/A	N/A		Pos [C3b (c/d)]

^{*} No irregular antibodies added - negative antibody screening/identification N/A: Not Applicable

Quality Control for Blood Group Serology

Anti-D Reference-Reagent has been developed to assist in the daily quality monitoring of routine antibody detection procedures.

A standardized dilution of the Anti-D Reference-Reagent should be used as a control to validate the sensitivity of routine test methods and reagents used.

It may also be used at appropriate dilutions for the proficiency testing of laboratory staff.

Bovine Albumin 6% is required as additional reagent for the dilution of the Anti-D Reference-Reagent.

Anti-D Reference Reagent

Monoclonal for controlling antibody detection procedures.

Ordering Information

Catalog # Description **Anti-D Reference Reagent**

Anti-D Reference Reagent (Id-n°: 13010), 6 x 0.5 ml

Cell lines: ESD 1 and LHM59/19



Albumin 6%

Ordering Information

Catalog # Description

Albumin 6%

105519 Bovine Albumin 6% (Id-n°: 13030), 1 x 10 ml 105520 Bovine Albumin 6% (Id-n°: 13030), 10 x 10 ml



Quality Control for Blood Group Serology

Transfusion guidelines recommend regular checking of test materials, test methods, personnel, working procedures and automated equipment/instruments used. The control sample should always have the same characteristics as a patient/donor sample and therefore be treated identically. These activities are intended to ensure the accuracy and safety of the blood group serological results.

ID-Internal Quality Control

ID-Internal Quality Control contains 5 vials of 4 ml human red blood cell reagent from single donors as a 3-5% suspension in a buffered medium, and 3 vials with 3 ml serum of human origin.

Ordering Information

Catalog # Description **ID-Internal Quality Control**

Set of 5 x 4 ml red blood cells and 3 x 3 ml sera (ld-n°: 45341) 80 tests, 1 Set 009925

Supplies on standing order, every 4 weeks



ANALYSIS	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
ABO forward grouping	~	✓	✓	✓	*
RhD typing	~	~	~	✓	*
Rh phenotyping	×	~	~	×	*
K phenotyping	×	×	✓	×	*
Direct Antiglobulin Test (DAT)	×	*	×	×	✓

ANALYSIS	Serum 1	Serum 2	Serum 3
ABO reverse grouping	✓	✓	✓
Antibody screening/identification	✓	✓	✓

Reagent Characteristics

	ABO	RH	К	Antibodie	s	DAT
Sample 1	AB [AB0:1,2,3]	RhD positive	N/A	N/A	N/A	N/A
Sample 2	0 [AB0:-1,-2,-3]	ddccee (rr) [RH:-1,-2,-3,4,5]	N/A	N/A	N/A	N/A
Sample 3	0 [AB0:-1,-2,-3]	DCcEe (R ₁ R ₂) [RH:1,2,3,4,5]	K+ [KEL:1]	N/A	N/A	N/A
Sample 4	0 [AB0:-1,-2,-3]	Weak D	N/A	N/A	N/A	N/A
Sample 5	N/A	N/A	N/A	N/A	N/A	Pos
Serum 1	N/A	N/A	N/A	none	Anti-Fy ^{a*} [Anti-FY1]	N/A
Serum 2	N/A	N/A	N/A	Anti-A and Anti-B [Anti-AB01 and Anti-AB02]	Anti-E* [Anti-RH4]	N/A
Serum 3	N/A	N/A	N/A	Anti-A and Anti-B [Anti-AB01 and Anti-AB02]	none	N/A

^{* 2} sera with irregular antibodies, which can change from lot to lot N/A: Not Applicable

DiaMed Quality Control Survey Basic

Easy-to-identify external quality control.

Ordering Information

Catalog # Description

DiaMed Quality Control Survey Basic

Set of 2 x 5 ml red blood cells and 2 x 5 ml sera (ld-n°: 45530), 1 Set

Supplies on request (8-10 weeks delivery time)



Result Table (example)

	Sample 1	Sample 2
Blood groups	А	Ο
A-subgroup	A_1	-
Factor RhD	negative	negative
Rh-phenotype	ccddee; K+	Ccddee; K-
Antibody screening	positive	negative
Direct Antiglobulin Test (DAT)	negative	negative

Antibody identification	Sample 1	Sample 2
1. Antibody	Anti-C	-
2. Antibody	-	-
3. Antibody	-	-

DiaMed Quality Control Survey Advanced

Less easy-to-identify external quality control.

Ordering Information

Catalog #

Description

DiaMed Quality Control Survey Advanced

Set of 2 x 1 ml red blood cells (patients), 2 x 5 ml red blood cells (donors) and 2 x 5 ml sera (ld-n°: 45650), 1 Set

Supplies on request (8-10 weeks delivery time)



Result Table (example)

Examples	Donor 1 Cells	Donor 2 Cells	Patient A Cells	Patient B Cells
Blood groups with A-subgroup and special antigens	O K-; S+; s+	O K-; S-; s+	A ₁ K-; S+; s+	O K-; S-; s+
Factor RhD with phenotype	CCD.ee	CcD.ee	CcD.Ee	CcD.ee
Direct Antiglobulin Test (DAT)	negative	negative	negative	negative

Antibody identification	Patient A Serum	Patient B Serum
1. Antibody	Anti-K	Anti-K
2. Antibody	-	Anti-S
3. Antibody	-	-

Compatibility test with: Donor 1	compatible	incompatible
Compatibility test with: Donor 2	compatible	compatible

Notes

Notes



Bio-Rad Laboratories, Inc. For further information, please contact the Bio-Rad office nearest you or visit our website at bio-rad.com/diagnostics/immunohematology

Clinical Diagnostics Group Website www.bio-rad.com/diagnostics Australia +61 (2) 9914 2800 Austria +43 (0) 1 877 89 01 9 Belgium +32 (0) 3 710 53 00 Brazil +55 11 3065 7550 Canada +1 514 334 4372 China +86 21 6169 8500 Czech Republic +420 241 431 660 Denmark +45 44 52 10 00 Finland +358 9 804 22 00 France +33 (0)1 47 95 60 00 Germany +49 (0) 89 31884 393 Greece +30 210 7774396 Hong Kong +85 2 2789 3300 Hungary +36 1 459 6190 India +91 124 4029300 Israel +972 03 963 6025 Italy +39 024 94 86 600 Japan +81 3 6361 7070 Korea +82 080 007 7373 Mexico +52 (55) 5488 7670 The Netherlands +31 (0)318 540 666 New Zealand +64 (9)415 2280 Norway +47 23 38 41 30 Poland +48 22 331 99 9 Portugal +351 21 47 27 700 Russia +7 495 721 1404 Singapore +65 6415 3170 South Africa +27 11 442 8508 Spain +34 91 490 6580 Sweden +46 844 98053 Switzerland +41 (0) 61 717 9555 Taiwan +886 (2) 2578-7189 Thailand (662) 651 8311 United Kingdom +44 (0)1923 471301

