



YEDİTEPE UNIVERSITY
FACULTY OF ENGINEERING
DEPARTMENT OF GENETICS AND BIOENGINEERING

ANTIVIRAL ACTIVITY TEST REPORT

REPORT RECORD NUMBER AND DATE	097-VİR-2016-1	31.10.2016
SAMPLE RECORD NUMBER	2016-197	
MANUFACTURER NAME AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Esenşehir- Ümraniye/İstanbul	
THE LICENSE OWNER COMPANY AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Esenşehir- Ümraniye/İstanbul	
TESTED PRODUCT NAME	Manochol EP-70	
ACTIVE SUBSTANCES OF THE PRODUCT	Ethyl Alcohol 45% ; İsopropyl Alcohol 25 %	
FORM OF PRODUCT FORMULATION	Liquid	
SAMPLE ARRIVAL DATE	02.09.2016	
TEST PURPOSE	Viral activity determination	
SAMPLE SENDING INSTITUTION, DATE AND NO	İstanbul Governorate Public Health Directorate	
PRODUCTION AND EXPIRATION DATE OF PRODUCT	26.08.2016 / 26.08.2018	
SAMPLE CHARGE/SERIAL NO	A2534	
TEST START AND END DATE	10.10.2016- 31.10.2016	
TESTED VIRUS AND STRAIN	Poliovirus Type 1, Chat strain	
TESTED VIRUS AND STRAIN PROPERTIES	Reference strain of ATCC coded VR-192	
TESTED DOSE	The highest non-cytotoxic concentration of the product was 1%, hence higher concentration than 1% was not tested in <i>in vitro</i> viral activity assays.	
CONTACT METHOD AND DURATION	Liquid mixture (inside the cell culture plates), 1 minutes and 60 minutes.	
TEST CONDITIONS	Clean Condition: BSA-containing medium (20 °C) Dirty Condition: BSA and sheep erythrocytes-containing medium (20 °C)	
TEST CELL CULTURE AND DILUTION BUFFER	HEp-2 cell culture (ATCC CCL-23) MEM, PBS, Hard water	
ANALYSIS METHOD	TS EN 14476 test method of Turkish Standards Institute (2014)	



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TEST RESULTS						
ACTIVITY EVALUATION METHOD	Serial dilutions of reference Poliovirus type 1, chat strain were inoculated onto HEp-2 cells and viral titer was calculated using Spearman-Karper method based on the virus dilution which exerted visible cytopathic effect under invert microscope.					
RESULTS		Reference virus	Effect of MANOCHOL EP-70			
			1 minutes		60 minutes	
	Virus titer*	5.5	Clean Condition	Dirty Condition	Clean Condition	Dirty Condition
	Virus titer with the disinfectant **		1.5	1.5	1.5	1.5
Reduction rate in virus titer ***		4.0	4.0	4.0	4.0	
	* Logarithmic TCID50 value of virus per ml ** Logarithmic TCID50 value of virus which was exposed to disinfectant at different contact time and conditions *** Logarithmic TCID50 ratio of virus titer and virus titer with the disinfectant					
COMMENT	<p>As tested concentration MANOCHOL EP-70; 10 %, was found to exert cytotoxicity against test cell culture, the highest concentration of the disinfectant which did not display any toxicity, 1 % was used in the experiments. According to the calculations based on test results, 100 % concentration of MANOCHOL EP-70 provided at least 4 log reduction in virus titer at room temperature (20 °C) in all test conditions (see result table) for 1 and 60 minutes contact time. According to the Antimicrobial Division US EPA standards, disinfectants has to provide minimum 4 log virus titer reduction to be an acceptable virucidal agent.</p> <p>The results of the test show that MANOCHOL EP-70 possesses 99.99% antiviral activity against Poliovirus type 1 at room temperature (20 °C) for 1 and 60 minutes contact time when used at 100 % concentration.</p>					

Binnur KIRATLI
Analyst

Prof. Fikretin SAHİN
Chair of Biocidal Laboratory

ANTIVIRAL ACTIVITY TEST REPORT

REPORT RECORD NUMBER AND DATE	097-VİR-2016-2	31.10.2016
SAMPLE RECORD NUMBER	2016-197	
MANUFACTURER NAME AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Eseşehir- Ümraniye/İstanbul	
THE LICENSE OWNER COMPANY AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Eseşehir- Ümraniye/İstanbul	
TESTED PRODUCT NAME	Manochol EP-70	
ACTIVE SUBSTANCES OF THE PRODUCT	Ethyl Alcohol 45% ; İsopropyl Alcohol 25 %	
FORM OF PRODUCT FORMULATION	Liquid	
SAMPLE ARRIVAL DATE	02.09.2016	
TEST PURPOSE	Viral activity determination	
SAMPLE SENDING INSTITUTION, DATE AND NO	İstanbul Governorate Public Health Directorate	
PRODUCTION AND EXPIRATION DATE OF PRODUCT	26.08.2016 / 26.08.2018	
SAMPLE CHARGE/SERIAL NO	A2534	
TEST START AND END DATE	10.10.2016- 31.10.2016	
TESTED VIRUS AND STRAIN	Human adenovirus type 5, Adenoid 75 strain	
TESTED VIRUS AND STRAIN PROPERTIES	Reference strain of ATCC coded VR-5	
TESTED DOSE	The highest non-cytotoxic concentration of the product was 1%, hence higher concentration than 1% was not tested in <i>in vitro</i> viral activity assays.	
CONTACT METHOD AND DURATION	Liquid mixture (inside the cell culture plates), 1 minutes and 60 minutes.	
TEST CONDITIONS	Clean Condition: BSA-containing medium (20 °C) Dirty Condition: BSA and sheep erythrocytes-containing medium (20 °C)	
TEST CELL CULTURE AND DILUTION BUFFER	HEp-2 cell culture (ATCC CCL-23) MEM, PBS, Hard water	
ANALYSIS METHOD	TS EN 14476 test method of Turkish Standards Institute (2014)	





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TEST RESULTS						
ACTIVITY EVALUATION METHOD	Serial dilutions of reference Human adenovirus type 5, Adenoid 75 strain were inoculated onto HEp-2 cells and viral titer was calculated using Spearman-Kärper method based on the virus dilution which exerted visible cytopathic effect under invert microscope.					
RESULTS		Reference virus	Effect of MANOCHOL EP-70			
			1 minutes		60 minutes	
	Virus titer*	5.0	Clean Condition	Dirty Condition	Clean Condition	Dirty Condition
	Virus titer with the disinfectant **		1.0	1.0	1.0	1.0
	Reduction rate in virus titer ***		4.0	4.0	4.0	4.0
	* Logarithmic TCID50 value of virus per ml ** Logarithmic TCID50 value of virus which was exposed to disinfectant at different contact time and conditions *** Logarithmic TCID50 ratio of virus titer and virus titer with the disinfectant					
COMMENT	<p>As tested concentration MANOCHOL EP-70; 10 %, was found to exert cytotoxicity against test cell culture, the highest concentration of the disinfectant which did not display any toxicity, 1 % was used in the experiments. According to the calculations based on test results, 100 % concentration of MANOCHOL EP-70 provided at least 4 log reduction in virus titer at room temperature (20 °C) in all test conditions (see result table) for 1 and 60 minutes contact time. According to the Antimicrobial Division US EPA standards, disinfectants has to provide minimum 4 log virus titer reduction to be an acceptable virucidal agent.</p> <p>The results of the test show that MANOCHOL EP-70 possesses 99.99% antiviral activity against Human adenovirus type 5 at room temperature (20 °C) for 1 and 60 minutes contact time when used at 100 % concentration.</p>					

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ANTIVIRAL ACTIVITY TEST REPORT

REPORT RECORD NUMBER AND DATE	097-VİR-2016-3	31.10.2016
SAMPLE RECORD NUMBER	2016-197	
MANUFACTURER NAME AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Esenşehir- Ümraniye/İstanbul	
THE LICENSE OWNER COMPANY AND ADDRESS	GBL Gül Biyoloji Laboratuvarı San. Tic. Ltd. Şti. İMES Sanayi Sitesi C Blok 305 Sok. No:16 Esenşehir- Ümraniye/İstanbul	
TESTED PRODUCT NAME	Manochol EP-70	
ACTIVE SUBSTANCES OF THE PRODUCT	Ethyl Alcohol 45% ; İsopropyl Alcohol 25 %	
FORM OF PRODUCT FORMULATION	Liquid	
SAMPLE ARRIVAL DATE	02.09.2016	
TEST PURPOSE	Viral activity determination	
SAMPLE SENDING INSTITUTION, DATE AND NO	İstanbul Governorate Public Health Directorate	
PRODUCTION AND EXPIRATION DATE OF PRODUCT	26.08.2016 / 26.08.2018	
SAMPLE CHARGE/SERIAL NO	A2534	
TEST START AND END DATE	10.10.2016- 31.10.2016	
TESTED VIRUS AND STRAIN	Murine Norovirus	
TESTED VIRUS AND STRAIN PROPERTIES	Reference strain of ATCC coded PTA-5935	
TESTED DOSE	The highest non-cytotoxic concentration of the product was 1%, hence higher concentration than 1% was not tested in <i>in vitro</i> viral activity assays.	
CONTACT METHOD AND DURATION	Liquid mixture (inside the cell culture plates), 1 minutes and 60 minutes.	
TEST CONDITIONS	Clean Condition: BSA-containing medium (20 °C) Dirty Condition: BSA and sheep erythrocytes-containing medium (20 °C)	
TEST CELL CULTURE AND DILUTION BUFFER	RAW cell culture (ATCC TIB-71) MEM, PBS, Hard water	
ANALYSIS METHOD	TS EN 14476 test method of Turkish Standards Institute (2014)	



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TEST RESULTS						
ACTIVITY EVALUATION METHOD	Serial dilutions of reference Murine Norovirus PTA-5935 strain were inoculated onto RAW cells and viral titer was calculated using Spearman-Kärper method based on the virus dilution which exerted visible cytopathic effect under invert microscope.					
RESULTS		Reference virus	Effect of MANOCHOL EP-70			
			1 minutes		60 minutes	
	Virus titer*	5.5	Clean Condition	Dirty Condition	Clean Condition	Dirty Condition
	Virus titer with the disinfectant **		1.5	1.5	1.5	1.5
	Reduction rate in virus titer ***		4.0	4.0	4.0	4.0
	* Logarithmic TCID ₅₀ value of virus per ml ** Logarithmic TCID ₅₀ value of virus which was exposed to disinfectant at different contact time and conditions *** Logarithmic TCID ₅₀ ratio of virus titer and virus titer with the disinfectant					
COMMENT	<p>As tested concentration MANOCHOL EP-70; 10 %, was found to exert cytotoxicity against test cell culture, the highest concentration of the disinfectant which did not display any toxicity, 1 % was used in the experiments. According to the calculations based on test results, 100 % concentration of MANOCHOL EP-70 provided at least 4 log reduction in virus titer at room temperature (20 °C) in all test conditions (see result table) for 1 and 60 minutes contact time. According to the Antimicrobial Division US EPA standards, disinfectants has to provide minimum 4 log virus titer reduction to be an acceptable virucidal agent.</p> <p>The results of the test show that MANOCHOL EP-70 possesses 99.99% antiviral activity against Murine Norovirus at room temperature (20 °C) for 1 and 60 minutes contact time when used at 100 % concentration.</p>					

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