

Offshoot (NZ) Ltd
34 Rosemont Road
Waihi
Waihi, 3610
NZ

Client Account Number: A00905133OBN
Eurofins Quote Number: X9NBPH20008401

Eurofins Sample Number FQ20AA3579-1	
Original Received Date:	27-Aug-2020
Description:	Offshoot Wipes, 500mL
Containers Submitted:	1 Bottle(s)

Analysis

Time Kill Test
Refer to Attachment # 1
Method: TMD 110, EN 1276
Analysis Date: 22-Oct-2020

Testing of virucidal activity of disinfectants by surface carrier technique
Refer to Attachment # 2
Method: TMCV 006, ASTM E1053
Analysis Date: 29-Sep-2020

Supplemental Information
For FQ20AA3579-1:
Solution provided is added to wipes.
Instead of providing wipes for "squeezing" solution out, client has provided the solution added.

Eurofins BPT Testing Facility	Test
Eurofins ams Laboratories Pty Ltd 8, Rachael Close Silverwater, NSW 2128 AUSTRALIA	Testing of virucidal activity of disinfectants by surface carrier technique Time Kill Test

Contracted Company: Eurofins BioPharma Product Testing NZ Ltd
35 O'Rorke Road, Penrose, Auckland 1061 New Zealand nzbiopharma@eurofins.com

Medsafe GMP certificate number TT60-200-16-3

Questions about this report should be directed to your project manager or the general email listed above.

Reviewed and electronically signed for Data Reviewer Approval by
Teresa Susanto, Laboratory Manager- Sterility
for Eurofins ams Laboratories Pty Ltd, on 06-Nov-2020 17:39:58 UTC+13:00
Reviewed and electronically signed for Project Manager Authorized by
Derek Radford, Business Unit Manager
for Eurofins BioPharma Product Testing NZ Ltd, on 09-Nov-2020 08:51:55 UTC+13:00

Test Conditions	
Test Concentration	Neat
Contact Time	5 Minutes
Neutraliser/ Dilution	T6 1:10
Test Conditions	Dirty (0.3% BSA)
Test Temperature	Room Temperature

RESULTS

Table 1: Surviving organisms after exposure to the Product under Test			
Organism	Inoculum Control Count	Surviving Test Organisms	
	CFU/mL (Log ₁₀)	5 Minutes	
		CFU/mL (Log ₁₀)	Log reduction
MRSA ATCC 33591	7.15 x 10 ⁷ (7.85)	<10 <(1.00)	>6.85
<i>K.pneumoniae</i> ATCC 2146	3.75 x 10 ⁷ (7.57)	<10 <(1.00)	>6.57
<i>C.albicans</i> ATCC 10231	1.02 x 10 ⁷ (7.01)	<10 <(1.00)	>6.01
<i>Aspergillus</i> ATCC 16404	4.20 x 10 ⁶ (6.62)	2.75 x 10 ² (2.44)	4.18
<i>S.aureus</i> ATCC 6538	2.50 x 10 ⁷ (7.40)	<10 <(1.00)	>6.40

<i>E.coli</i> NCTC 10538	2.40 x 10 ⁷ (7.38)	<10 <(1.00)	>6.38
<i>P.aeruginosa</i> ATCC 15442	4.70 x 10 ⁷ (7.67)	<10 <(1.00)	>6.67
<i>S.typhimurium</i>	1.04 x 10 ⁸ (8.02)	<10 <(1.00)	>7.02
<i>L.monocytogenes</i>	3.25 x 10 ⁷ (7.51)	<10 <(1.00)	>6.51

CFU = Colony Forming Unit

Table 2 Neutralisation Validation Results					
Organisms	Validation suspension (Nv)	Experimental condition (A)	Neutralizer control (B)	Method validation (C)	Pass/Fail
MRSA ATCC 33591	38	52	50	56	Pass
<i>K.pneumoniae</i> ATCC 2146	36	35	40	35	Pass
<i>C.albicans</i> ATCC 10231	10	10	9	11	Pass
<i>Aspergillus</i> ATCC 16404	5	6	9	10	Pass
<i>S.aureus</i> ATCC 6538	36	34	40	39	Pass

<i>E.coli</i> NCTC 10538	25	28	24	37	Pass
<i>P.aeruginosa</i> ATCC 15442	36	42	34	34	Pass
<i>S.typhimurium</i>	55	65	52	37	Pass
<i>L.monocytogenes</i>	86	62	50	79	Pass

A, B & C must be $\geq 0.5N_v$

COMMENTS: The product showed greater than 6 log reduction against MRSA, *K.pneumoniae*, *C.albicans*, *S.aureus*, *E.coli*, *P.aeruginosa* and *L.monocytogenes*, greater than 7 log reduction against *S.typhimurium* and 4.18 log reduction against *Aspergillus* at 5 Minutes contact time.

CONDITIONS	
Virus Strain	Murine hepatitis virus (MHV) -1 ATCC/VR-261
Cell Substrate	A9 cells ATCC/CCL- 1.4
Test Concentration	Neat
Contact Time	10 minutes
Test Temperature	Room temperature
Test Condition	Dirty 5% FBS (Fetal Bovine Serum)
Neutraliser	3 cc Sephadex Gel in PBS (Phosphate Buffer Saline)

RESULTS: TABLE 1: MHV-1 test/control results for 10 minutes contact

Virus Dilution	Number of Inoculated Wells	Virus Control	Cytotoxicity	Neutralisation	Test Sample
10 ⁻¹	4	4 ⁺ /4	C	C	C
10 ⁻²	4	4 ⁺ /4	C	C	C
10 ⁻³	4	4 ⁺ /4	0 ⁺ /4	4 ⁺ /4	0 ⁺ /4
10 ⁻⁴	4	4 ⁺ /4	N/A	N/A	0 ⁺ /4
10 ⁻⁵	4	4 ⁺ /4	N/A	N/A	0 ⁺ /4
10 ⁻⁶	4	2 ⁺ /4	N/A	N/A	0 ⁺ /4
10 ⁻⁷	4	2 ⁺ /4	N/A	N/A	N/A
10 ⁻⁸	4	1 ⁺ /4	N/A	N/A	N/A
Log ₁₀	-	6.75	2.5	2.5	2.5
Log ₁₀ Reduction of Virus after Treatment				4.25	

Note: Presence of virus in each response is recorded as “+”
 Absence of virus in each response is recorded as “0”
 Cytotoxic response is recorded as “C”
 Calculated virus titre = 10^{6.75}TCID_{50/0.1ml} (6.75 log₁₀)
 Cell control - 4 wells with healthy cell monolayer

* The Reed & Muench LD50 Method was used for determining the virus titre endpoint.

CONCLUSIONS:

Considering the cytotoxicity and neutralisation test results, the sample has shown virucidal efficacy against MHV-1 by achieving 4.25 log reduction in virus concentration after 10 minutes exposure period at room temperature.