

01 May, 2014

Zoono Limited
PO Box 9428
Newmarket
AUCKLAND 1149

Attention: Paul Hyslop/ Lew Mackinnon

Dear Paul/Lew,

Sample Information

Samples received	Thursday, 13 March, 2014
Number of samples	1
Product name:	Zoono Z71
Number of tests	6
Number of test organisms	2
Project number	14NZAK0020190
Sample numbers	3679784 – 3679787, 3728728, 3728729
Laboratory Retesting started	Wednesday, 26 March, 2014
Test	Antimicrobial testing
Methodology	As supplied by the client

Introduction

As requested, the microbiological challenge test for antimicrobial effectiveness was performed on the samples as submitted.

All documentation is kept in accordance with ISO 17025:2005. Laboratory personnel involved with this testing, have the appropriate training and experience to perform all necessary methodology.

Selection of Product for testing

Samples were chosen for testing by the client.

Selection of cultures and culture conditions

Cultures were maintained in accordance with the recommendations of the Curator of the Culture Collections Centre NZ Communicable Disease Centre and New Zealand Laboratory Services quality control systems.

As requested, the following organisms were used in the test:

Staphylococcus aureus (NZRM 917)

Escherichia coli (NZRM 916)

Selection of culture medium and incubation conditions

1. Tryptic Soy Agar was used as the medium of choice for the enumeration of the bacteria.
2. All plates were incubated at 35 - 37°C for 48 hours.

Selection of Technique

Methodology used as supplied by the client.

Results

The results apply to the samples as received at the laboratory. Please refer to the Sample Identification and Result table for all results.

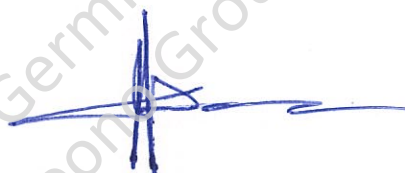
Please contact us should you require any further information.

Yours faithfully,

EUROFINS NZ LABORATORY SERVICES LIMITED



Meghana Desai
Team Leader – Pharmaceutical Micro Services



Chris Green
Analytical Services Manager

Key:

NZRM New Zealand Culture Collection – Medical Section
NR No recovery

Product Name: Zoono Z71						
Test Organism: <i>Staphylococcus aureus</i> (NZRM 917)		Initial inoculum level (cfu/ml): 6.9 x 10 ⁷ (log 7.8)	24 hour re-inoculation inoculum level (cfu/ml): 6.5 x 10 ⁷ (7.8)	28 days re-inoculation inoculum level (cfu/ml): 7.7 x 10 ⁶ (6.9)		
Sample Number	Contact Time	Recovery Level (cfu/ml)			Log reduction between slide control recovery level and Zoono Z71 recovery level (cfu/ml)	% reduction between slide control recovery level and Zoono Z71 recovery level (cfu/ml)
		Slide Control (test organism only)	Zoono Z71 + Test Organism			
3679786	1 hour	9.1 x 10 ⁵ (log 6.0)	NR (log 0.0)	NR (log 0.0)	6.0	100.0
3679787	24 hours	7.6 x 10 ⁵ (log 5.9)	NR (log 0.0)	NR (log 0.0)	5.9	100.0
3728729	28 days	5.4 x 10 ⁵ (log 5.7)	NR (log 0.0)	NR (log 0.0)	5.7	100.0
Sample Number	Contact Time	Recovery Level (cfu/ml)			Log reduction between inoculum control recovery level and Zoono Z71 recovery level (cfu/ml)	% reduction between inoculum control recovery level and Zoono Z71 recovery level (cfu/ml)
		Initial inoculum control	Zoono Z71 + Test Organism			
3326786	1 hour	6.9 x 10 ⁷ (log 7.8)	NR (log 0.0)	NR (log 0.0)	7.8	100.0
3326787	24 hours	24 hour re- inoculum control	Zoono Z71 + Test Organism	NR (log 0.0)	7.8	100.0
3728729	28 days	28 days re- inoculum control	Zoono Z71 + Test Organism	NR (log 0.0)	6.9	100.0

Product Name: Zoono Z71					
Test Organism: <i>Escherichia coli</i> (NZRM 916)		Initial inoculum level (cfu/ml): 7.1 x 10 ⁷ (log 7.9)	24 hour re-inoculation inoculum level (cfu/ml): 4.8 x 10 ⁷ (log 7.7)	28 days re-inoculation inoculum level (cfu/ml): 6.6 x 10 ⁷ (log 7.8)	
Sample Number	Contact Time	Recovery Level (cfu/ml)		Log reduction between slide control recovery level and Zoono Z71 recovery level (cfu/ml)	% reduction between slide control recovery level and Zoono Z71 recovery level (cfu/ml)
		Slide Control (test organism only)	Zoono Z71 + Test Organism		
3326784	1 hour	7.5 x 10 ⁵ (log 5.9)	9.0 x 10 ¹ (log 2.0)	3.9	99.9
3326785	24 hours	6.6 x 10 ⁵ (log 5.8)	NR (log 0.0)	5.8	100.0
3728728	28 days	5.9 x 10 ⁵ (log 5.8)	NR (log 0.0)	5.8	100.0
Sample Number	Contact Time	Recovery Level (cfu/ml)		Log reduction between inoculum control recovery level and Zoono Z71 recovery level (cfu/ml)	% reduction between inoculum control recovery level and Zoono Z71 recovery level (cfu/ml)
		Initial inoculum control	Zoono Z71 + Test Organism		
3326784	1 hour	7.1 x 10 ⁷ (log 7.9)	9.0 x 10 ¹ (log 2.0)	5.9	99.9
3326785	24 hours	24 hour re- inoculum control	Zoono Z71 + Test Organism	7.7	100.0
3728728	28 days	28 days re- inoculum control	Zoono Z71 + Test Organism	7.8	100.0