BluScientific Test Data

Test Report. ASTM E1052 (2002). Standard Test Method for Efficacy of Antimicrobial Agents Against Viruses in Suspension.

Feline immunodeficiency virus (HIVsurrogate).

Test Laboratory

BluScientific Test Data
School of Life Sciences
Glasgow Caledonian University
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G4 0BA

Identification of sample

Name of the product	STERI-7
Manufacturer	SENTINEL INTERNATIONAL LIMITED Unit 1, Batsworth Road, Mitcham, Surrey, UK CR4 3BX.
Product diluent	None
Active substances	Not Known

Test Method and its validation

Method	Steri-7 desiccated onto a stainless steel surface and challenged with a virus suspension; Dilution-neutralization
Neutralizer	Dulbecco's modified Eagles medium + 5% v/v foetal bovine serum at 4°C.

Experimental Conditions

Period of analysis	7^{th} – 20^{th} March. 2006
Product diluent used	None
Product test concentrations	NEAT
Contact times	Seven days after application, 5 minutes and 10 minutes ±10 seconds; Three days after application, 5 minutes and 10 minutes +/- 10 seconds; 1 day after application, 5 minutes and 10 minutes; same day as application, 5 minutes and 10 minutes ± 10 seconds.
Test temperature	20 °C ± 1 °C
Interfering substance	0.6 g/l foetal bovine serum
Stability of mixture	Precipitate absent throughout the test
Temperature of incubation	37 °C ± 1 °C + 5% CO2
Identification of virus	Feline immunodeficiency virus (CRFK adapted) (ATCC VR-1312)

Test Result (See table 1)

Conclusion.

Steri-7 when applied to a stainless steel surface and desiccated for up to 1 day retains virucidal activity on subsequent challenge at 5 minutes and 10 minutes (reduction in viral viability, > 3.7 Log_{10}) contact at 20°C under clean conditions (0,6 g/L protein as foetal bovine serum) for suspensions of Feline immunodeficiency virus (HIV surrogate).

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Time period between time of Steri-7 application and virus challenge.	Contact time.	Log_{10} reduction in virus viability (mean of 4 samples, 6 replicates/sample)
0 days	5 minutes	>3.7 = **PASS**
	10 minutes	>3.7 = **PASS**
1 day	5 minutes	>3.7 = **PASS**
	10 minutes	>3.7 = **PASS**
3 days	5 minutes	>3.7 = **PASS**
	10 minutes	>3.7 = **PASS**
7 days	5 minutes	>3.7 = **PASS**
	10 minutes	>3.7 = **PASS**

Controls	
CELL CULTURE	Cell death was not observed (4 samples, 6 replicates/sample).
VIRUS	Virus recovered from 4 sample mock treated test plates, 6 replicates per sample = 3.6 X 10^6 TISSUE CULTURE INFECTIOUS $DOSE_{50}$ ($TCID_{50}$) units/ml from an applied virus stock of 1.5 x 10^6 $TCID_{50}$ units/ml.
CYTOTOXICITY	Cytotoxicity was not observed at a greater dilution than 10^{-2}. This restricts the sensitivity of the assay to <2.5 Log_{10} $TCID_{50}$ units/ml (4 samples, 6 replicates/sample)
NEUTRALIZATION	Neutralization that enabled viral replication was demonstrated to be effective at dilutions of disinfectant between 10^{-1} and 10^{-2} (4 samples, 6 replicates/sample).

Signed

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4th May 2006. Glasgow, UK.

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BluScientific Test Data

Test Report. ASTM E1052 (2002). **Standard Test Method for Efficacy of Antimicrobial Agents Against Viruses in Suspension.**

Bovine viral diarrhea virus (Hepatitis C virus surrogate).

Test Laboratory	**BluScientific Test Data** School of Life Sciences Glasgow Caledonian University GLASGOW G4 0BA
Identification of sample	
Name of the product	STERI-7
Manufacturer	SENTINEL INTERNATIONAL LIMITED Unit 1, Batsworth Road, Mitcham, Surrey, UK CR4 3BX.
Product diluent	None
Active substances	Not Known
Test Method and its validation	
Method	Steri-7 desiccated onto a stainless steel surface and challenged with a virus suspension; Dilution-neutralization
Neutralizer	Dulbecco's modified Eagles medium + 5% v/v foetal bovine serum at 4°C.
Experimental Conditions	
Period of analysis	9th – 12th December. 2005
Product diluent used	None
Product test concentrations	NEAT
Contact times	Seven days after application, 5 minutes and 10 minutes ±10 seconds; Three days after application, 5 minutes and 10 minutes +/- 10 seconds; 1 day after application, 5 minutes and 10 minutes; same day as application, 5 minutes and 10 minutes ± 10 seconds.
Test temperature	20°C ± 1 °C
Interfering substance	0.6 g/l foetal bovine serum
Stability of mixture	Precipitate absent throughout the test
Temperature of incubation	37 °C ± 1 °C + 5% CO2
Identification of virus	Bovine viral diarrhea virus-1 (ATCC VR-534)

Test Result (See table 1)

Conclusion.

Steri-7 when applied to a stainless steel surface and desiccated for up to 1 day retains virucidal activity on subsequent challenge at 5 minutes and 10 minutes (reduction in viral viability, 3.93 - >4.05 Log_{10}) contact at 20°C under clean conditions (0,6 g/L protein as foetal bovine serum) for suspensions of Bovine viral diarrhea virus-1 (Hepatitis C virus surrogate).

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Time period between time of Steri-7 application and virus challenge.	Contact time.	Log_{10} reduction in virus viability (mean of 4 samples, 6 replicates/sample)
0 days		
	10 minutes	>3.93 = **PASS**

Time period between time of Steri-7 application and virus challenge.	Contact time.	Log_{10} reduction in virus viability (mean of 4 samples, 6 replicates/sample)
1 day		
	5 minutes	4.04 = **PASS**
	10 minutes	>4.05 = **PASS**

Controls	
CELL CULTURE	Cell death was not observed (4 samples, 6 replicates/sample).
VIRUS	Virus recovered from 4 sample mock treated test plates, 6 replicates per sample = 3.6×10^8 TISSUE CULTURE INFECTIOUS $DOSE_{50}$ ($TCID_{50}$) units/ml from an applied virus stock of 6.3×10^8 $TCID_{50}$ units/ml.
CYTOTOXICITY	Cytotoxicity was not observed at a greater dilution than 10^{-2}. This restricts the sensitivity of the assay to <2.5 Log_{10} $TCID_{50}$ units/ml (4 samples, 6 replicates/sample)
NEUTRALIZATION	Neutralization that enabled viral replication was demonstrated to be effective at dilutions of disinfectant between 10^{-1} and 10^{-2} (4 samples, 6 replicates/sample).

Signed

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11th January 2006. Glasgow, UK.

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BluScientific Test Data

Test Report. ASTM E1052 (2002). Standard Test Method for Efficacy of Antimicrobial Agents Against Viruses in Suspension.
Influenza A virus H1N1 (ATCC VR-1465).

Test Laboratory	**BluScientific Test Data** School of Life Sciences Glasgow Caledonian University GLASGOW G4 0BA
Identification of sample	
Name of the product	STERI-7
Manufacturer	SENTINEL INTERNATIONAL LIMITED Unit 1, Batsworth Road, Mitcham, Surrey, UK CR4 3BX.
Product diluent	None
Active substances	Not Known
Test Method and its validation	
Method	Steri-7 desiccated onto a stainless steel surface and challenged with a virus suspension; Dilution-neutralization
Neutralizer	Dulbecco's modified Eagles medium + 5% v/v foetal bovine serum at 4°C.
Experimental Conditions	
Period of analysis	12th – 20th January 2006
Product diluent used	None
Product test concentrations	NEAT
Contact times	Seven days after application, 5 minutes and 10 minutes ±10 seconds; Three days after application, 5 minutes and 10 minutes +/- 10 seconds; 1 day after application, 5 minutes and 10 minutes; same day as application, 5 minutes and 10 minutes ± 10 seconds.
Test temperature	20 °C ± 1 °C
Interfering substance	0.6 g/l foetal bovine serum
Stability of mixture	Precipitate absent throughout the test
Temperature of incubation	37 °C ± 1 °C + 5% CO2
Identification of virus	Influenza A virus H1N1 (ATCC VR-1465)

Test Result (See table 1)

Conclusion.

Steri-7 when applied to a stainless steel surface and desiccated for up to 7 days retains virucidal activity on subsequent challenge at 5 minutes and 10 minutes (reduction in viral viability, 3.50 - 4.96 Log_{10}) contact at 20°C under clean conditions (0,6 g/L protein as foetal bovine serum) for suspensions of Influenza A virus H1N1.

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BluScientific Test Data

Time period between time of Steri-7 application and virus challenge.	Contact time.	Log_{10} reduction in virus viability (mean of 4 samples, 6 replicates/sample)
0 days	5 minutes	4.96 = **PASS**
	10 minutes	3.92 = **PASS**
1 day	5 minutes	3.79 = **PASS**
	10 minutes	3.50 = **PASS**
3 days	5 minutes	3.84 = **PASS**
	10 minutes	3.71 = **PASS**
7 days	5 minutes	3.59 = **PASS**
	10 minutes	3.54 = **PASS**

Controls	
CELL CULTURE	Cell death was not observed (4 samples, 6 replicates/sample).
VIRUS	Virus recovered from 4 sample mock treated test plates, 6 replicates per sample = 3.6 X 10^6 TISSUE CULTURE INFECTIOUS $DOSE_{50}$ ($TCID_{50}$) units/ml from an applied virus stock of 6.3 x 10^6 $TCID_{50}$ units/ml.
CYTOTOXICITY	Cytotoxicity was not observed at a greater dilution than 10^{-2}. This restricts the sensitivity of the assay to <2.5 Log_{10} $TCID_{50}$ units/ml (4 samples, 6 replicates/sample)
NEUTRALIZATION	Neutralization that enabled viral replication was demonstrated to be effective at dilutions of disinfectant between 10^{-1} and 10^{-2} (4 samples, 6 replicates/sample).

Signed

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BluScientific Test Data

Test Report. ASTM E1052 (2002). **Standard Test Method for Efficacy of Antimicrobial Agents Against Viruses in Suspension.**

Feline Coronavirus (SARS virus surrogate).

Test Laboratory	**BluScientific Test Data** School of Life Sciences Glasgow Caledonian University GLASGOW G4 0BA
Identification of sample	
Name of the product	STERI-7
Manufacturer	SENTINEL INTERNATIONAL LIMITED Unit 1, Batsworth Road, Mitcham, Surrey, UK CR4 3BX.
Product diluent	None
Active substances	Not Known
Test Method and its validation	
Method	Steri-7 desiccated onto a stainless steel surface and challenged with a virus suspension; Dilution-neutralization
Neutralizer	Dulbecco's modified Eagles medium + 5% v/v foetal bovine serum at 4°C.
Experimental Conditions	
Period of analysis	12th – 15th Sept. 2005
Product diluent used	None
Product test concentrations	NEAT
Contact times	Seven days after application, 5 minutes and 10 minutes ±10 seconds; Three days after application, 5 minutes and 10 minutes +/- 10 seconds; 1 day after application, 5 minutes and 10 minutes; same day as application, 5 minutes and 10 minutes ± 10 seconds.
Test temperature	20 °C ± 1 °C
Interfering substance	0.6 g/l foetal bovine serum
Stability of mixture	Precipitate absent throughout the test
Temperature of incubation	37 °C ± 1 °C + 5% CO2
Identification of virus	Feline Coronavirus

Test Result (See table 1)

Conclusion.

Steri-7 when applied to a stainless steel surface and desiccated for up to 7 days retains virucidal activity on subsequent challenge at 5 minutes (reduction in viral viability, 3.3 Log_{10}) and 10 minutes (reduction in viral viability, 4.1 Log_{10}) contact at 20°C under clean conditions (0.6 g/L protein as foetal bovine serum) for suspensions of Feline Coronavirus (SARS virus surrogate).

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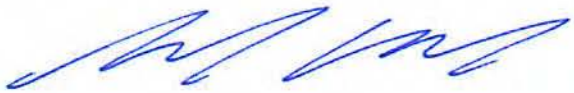
BluScientific Test Data

Time period between time of Steri-7 application and virus challenge.	Contact time.	Log_{10} reduction in virus viability (mean of 4 samples, 6 replicates/sample)
0 days	5 minutes	3.5 = **PASS**
	10 minutes	4.1 = **PASS**
1 day	5 minutes	3.9 = **PASS**
	10 minutes	4.1 = **PASS**
3 days	5 minutes	3.9 = **PASS**
	10 minutes	4.1 = **PASS**
7 days	5 minutes	3.3 = **PASS**
	10 minutes	4.1 = **PASS**

Controls	
CELL CULTURE	Cell death was not observed (4 samples, 6 replicates/sample).
VIRUS	Virus recovered from 4 sample mock treated test plates, 6 replicates per sample = 3.6 X 10^6 TISSUE CULTURE INFECTIOUS DOSE$_{50}$ ($TCID_{50}$) units/ml from an applied virus stock of 6.3 x 10^6 $TCID_{50}$ units/ml.
CYTOTOXICITY	Cytotoxicity was not observed at a greater dilution than 10^{-2}. This restricts the sensitivity of the assay to <2.5 Log_{10} $TCID_{50}$ units/ml (4 samples, 6 replicates/sample)
NEUTRALIZATION	Neutralization that enabled viral replication was demonstrated to be effective at dilutions of disinfectant between 10^{-1} and 10^{-2} (4 samples, 6 replicates/sample).

Signed



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