Public Health England

SARS-CoV-2 Inactivation Testing: Interim Report

Report identifier	HCM/CoV2/065/v1
Report date	09 December 2020
Undertaken by High Containment Microbiology, NIS Laboratories, National Infection Service, Public Health England N.B. This is an interim report and may be updated as further results are obtained	

Product/treatment details	
Product/treatment	Salicovgel-1
Manufacturer	LGC
Product code	Not known
Manufacturer's recommended ratio of sample to product	2ml saliva to be added to tube containing 36µl Salicovgel-1

Sample details	
Sample type tested	Tissue culture fluid containing 5% (v/v) foetal calf serum
Virus strain tested	SARS-CoV-2 England 2
Ratio of spiked virus stock to sample matrix	Not applicable; tissue culture fluid used undiluted

Experimental conditions	
Ratio of sample to product tested	1 volume sample to 10 volumes resuspended Salicovgel-1 (generated by resuspending 36µl Salicovgel-1 in 2ml PBS)
Contact time/s	1 hour
Temperature of incubation	Ambient temperature
Brief description of tests performed	Tubes containing 36µl Salicovgel-1 were thoroughly resuspended in PBS (2ml per tube) and then spiked with SARS-CoV-2 and incubated for one hour. Mock-treated samples were prepared in triplicate with an equivalent volume of PBS. All samples were then subjected to a purification step to remove cytotoxic buffer components. PBS-treated samples were subjected to the same dilution and purification procedure in parallel. Purified samples were titrated on Vero E6 cells to establish virus titre. This test is quantitative and reports the titre of virus in each treatment condition in TCID50 per ml. Reduction in virus titre following treatment is given as the difference between the mean $\log_{10}$ TCID50/ml for treated conditions and the PBS control.

Table of results		
	Mean virus titre in log_{10} TCID50/ml [95% confidence interval]	Mean titre reduction in log_{10} TCID50/ml [95% confidence interval]
PBS-treated	5.0 [4.7-5.2]	-
Test buffer-treated (1 hour)	4.0 [3.7-4.2]	1.0 [0.6-1.4]

Interpretation

Treatment with Salicovgel-1 (resuspended according to the manufacturer's instructions) reduced SARS-CoV-2 titre by 1.0 log_{10} TCID50/ml after a one hour treatment time, which is a very modest titre reduction compared to other lysis buffers.

This product should not be relied upon to inactivate infectious samples.

This test has been performed using tissue culture fluid. The effectiveness of this treatment against SARS-CoV-2 may vary when used to inactivate clinical samples or other types of sample matrix. Any results of inactivation testing using other sample matrices will be released as they become available.

Inactivation reagents should not be assumed to be 100% effective against SARS-CoV-2.

Suitability of products and treatments for inactivation of other pathogens has not been evaluated in this study.

All COVID-19 laboratory testing workflows must be subjected to suitable and sufficient risk assessment, with consideration given to any inactivation step. Risk assessments should be reviewed regularly as new information on the inactivation of SARS-CoV-2 becomes available.

The impact of chosen inactivation method on the sensitivity of subsequent SARS-CoV-2 detection should also be assessed locally.

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Summary of revisions
Version 1: New document

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