

my-shield Hand Sanitizer Efficacy Against Feline Infectious Peritonitis Virus: Hand Trials Final Report

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Objective:

Determine the efficacy of my-shield Hand Sanitizer Foam against feline infectious peritonitis virus on hands.

Methods:

Four volunteers were recruited and went through a 7 day washout (conditioning) period. During this time use of antibacterial soaps and shampoos was restricted. After the washout period volunteers will report to the laboratory for hand sanitizer testing.

The volunteers' hands were washed with a mild soap for 15 seconds and dried using a paper towel. After completing the wash, hands were seeded 3 times with 1.5mL of a high titer suspension of feline infectious peritonitis virus (a MERS-coronavirus surrogate). Following final virus application hands were allowed to air dry. A before sample was collected using a sterile swab containing a neutralizing solution. Volunteers repeated the preliminary wash and seeding procedures. Following successful seeding, hand sanitizer foam was added to the volunteers' hands according to manufacturer's instruction. An after sample was then collected following the above method.

Viral samples were assayed using the tissue culture infectious dose 50% technique (TCID₅₀) and allowed to incubate at 37°C for 14 days. Each day cultures were reviewed to determine the presence of virus. Following the 14 days of incubation the efficacy of my-shield hand sanitizer was calculated using statistical methods.

Results:

my-shield Hand Sanitizer was able to achieve a >99.9% (>3.19 log₁₀) reduction. All replicates in the presence my-shield Hand Sanitizer Foam were below the limit of detection for the assay suggesting that greater reductions are achievable. Results are shown in Table 1.



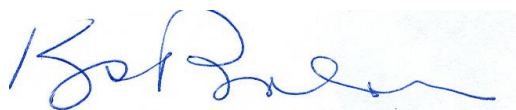
Table 1. my-shield Hand Sanitizer Test Using Four Human Subjects Against Feline Infectious Peritonitis Virus (FIPV)

Human Subject Designation	Sample Id	Viral Titer (Log₁₀ per mL)^a	Log₁₀ Reduction	Percent Reduction
Human Subject No. 1	Pre-Exposure Control	6.00	N.A.	
	Post-Exposure Test	≤ 2.50	> 3.50	> 99.97%
Human Subject No. 2	Pre-Exposure Control	5.75	N.A.	
	Post-Exposure Test	≤ 2.50	> 3.25	> 99.94%
Human Subject No. 3	Pre-Exposure Control	5.00	N.A.	
	Post-Exposure Test	≤ 2.50	> 2.50	> 99.7%
Human Subject No. 4	Pre-Exposure Control	6.00	N.A.	
	Post-Exposure Test	≤ 2.50	> 3.50	> 99.97%
Average	Pre-Exposure Control	5.69	N.A.	
	Post-Exposure Test	≤ 2.50	>3.19	>99.9%

^a Detection Limit = ≤ 2.50 log₁₀ per ml

my-shield Hand Sanitizer Foam is effective at reducing feline infectious peritonitis virus on hands by at least 99.9% following manufacturer’s instruction.

Results verified by:



Associate Professor & Program Director
Environmental Health Sciences

