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## 한국화학연구원

Korea Research Institute of Chemical Technology

## CEVI융합연구단


Center for Convergent Research of

Emerging Virus Infection

시험결과를 참조하거나 필요  
기관에 제출할 수 있으나,  
한국화학연구원과 부서이름  
과 실험자 등의 이름이 광고  
에 직접 활용될 수 없습니  
다.

1p./2p.

## Certificate of Testing

Client	Person	Jung-Joo Seo	Tel.	010-4037-3882
	Company	Essgee Hightech	Email	jj4272@naver.com
	Address	#815, 142, Gasan digital 1-ro, Geumcheon-gu, Seoul (Gasan-dong, The Sky Valley 1 cha)		
Contents of request	Virus inactivation test			
Name of product	Essgee UV one-kill multi-disinfectant			
Test Virus	Feline coronavirus (FCV)		Cell line	CRFK cell
Test code	20D113		Test period	Feb. 25 ~ Mar. 02, 2020 (6 d)
Test condition	-. Liquid type: 20ul virus was dropped on each of two 10mm diameter hole of a slide glass (hole depth 0.6mm, slide thickness 1mm) -. Dried type: 20ul of liquid type virus was dried out		Virus Carrier	The slide glass carrying viruses was bound on a mobile phone with 11mm height and passed through CLEAN BUNKER(ULS-10)
Number of uses	0, 1, 3 & 5 uses (7sec curing time/uses, i.e, 7sec UV exposure)		Virus titration	CPE/MTT assay (also microscopic observation)
Test temperature	Room temperature (approx. 23℃)		Test participant	Chong-Kyo Lee

## Results

Virus		UV lamp	Virus reduction (log)			Virus Reduction (%)		
Name	Type	distance	Essgee UV one-kill multi-disinfectant Usage Times			Essgee UV one-kill multi-disinfectant Usage Times		
			0 sec	10 sec	30 sec	0 sec	10 sec	30 sec
FCV	Liquid	11 mm	0.00	2.95	>5.20	0%	99.887%	>99.999%
FCV	Dry	11 mm	0.00	3.98	>4.46	0%	99.989%	>99.997%

\* Conclusion: Does have virus inactivation ability against the feline coronavirus

March 06, 2020

Korea Research Institute of Chemical Technology

Center for Convergent Research of Emerging Virus Infection

Test manager: Chong-Kyo Lee, Ph.D. (Signature)





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## Appendix: Detailed results

Table 1. Virus titers and virus reduction rates (log values)

Virus		UV lamp distance	Virus titers (log CCID <sub>50</sub> )			Virus reduction (log)		
Name	Type		Essgee UV one-kill multi-disinfectant Usage Times			Essgee UV one-kill multi-disinfectant Usage Times		
			0 sec	10 sec	30 sec	0 sec	10 sec	30 sec
FCV	Liquid	11 mm	5.98	3.03	<0.78	0.00	2.95	>5.20
FCV	Dry	11 mm	5.24	1.26	<0.78	0.00	3.98	>4.46

Table 2. Virus titers (CCID<sub>50</sub>/well) and virus reduction rates (%)

Virus		UV lamp distance	Virus titers (CCID <sub>50</sub> )			Virus Reduction (%)		
Name	Type		Essgee UV one-kill multi-disinfectant Usage Times			Essgee UV one-kill multi-disinfectant Usage Times		
			0 sec	10 sec	30 sec	0 sec	10 sec	30 sec
FCV	Liquid	11 mm	949,059	1,074	<6.0	0%	99.887%	>99.9994%
FCV	Dry	11 mm	173,988	18	<6.0	0%	99.989%	>99.997%