Attachment

July 22, 2020
Toyoda Gosei Co., Ltd.

UV light exposure test using a human coronavirus (HCoV-229E)

■ Conducted: June 26, 2020

■ Conductor: Biomedical Science Association (certified NPO in Japan)

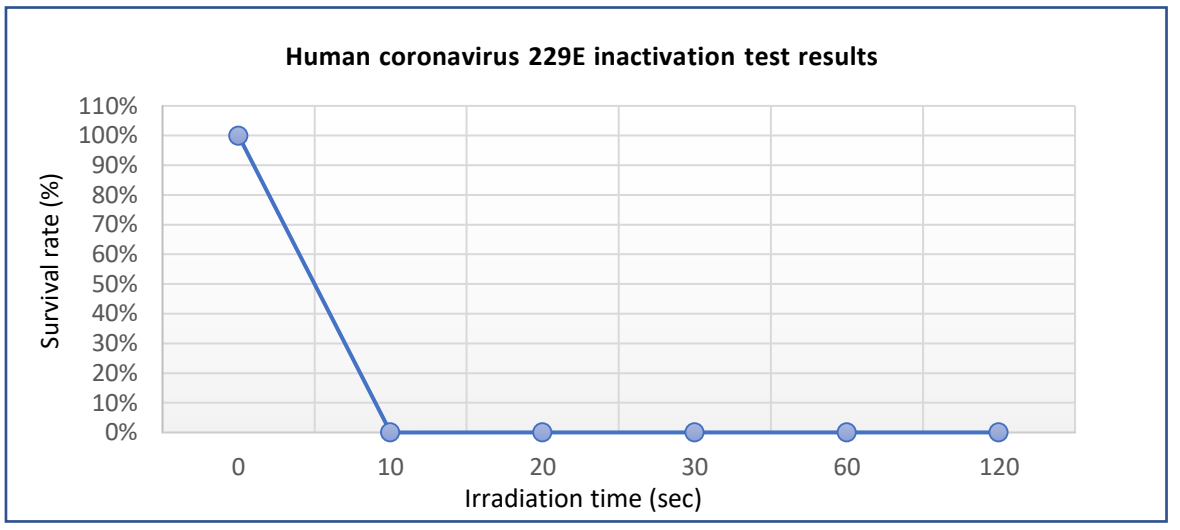
■ Light source used: Deep UV LED light modules from Toyoda Gosei Co., Ltd.

■ Virus used: Human Coronavirus 229E (ATCC VR-740)

■ Cell used: MRC-5 lung fibroblasts (ATCC 171)

■ Test method:
1. Preparation of specimens
Standard plates coated with viral fluid were prepared
2. Experiment
The specimens were irradiated with deep UV light in a safety cabinet
A cell contact test was performed immediately after irradiation,
and the viral load in the culture supernatant was measured after six days

■ Test results: UV irradiation caused a decrease of more than 10^4 in TCID50,
and viral inactivation within 10 sec was confirmed



Level	Time (sec)	$TCID_{50}$/ml equivalent	Survival rate (%)	
280 nm@350mA Central illuminance: 2.6 mW/cm^2 (distance 50 mm)	0	$7.9x10^5$	100.0000%	
	10	$1.4x10^1$	0.0018%	Under the limit of detection
	20	$4.5x10^1$	0.0057%	
	30	$7.9x10^1$	0.0100%	
	60	$4.5x10^1$	0.0057%	
	120	$4.5x10^1$	0.0057%	

■ Experimental setup :