NPO Biomedical Science Association (BMSA)

2-20-8-3F, Kamiosaki, Shinagawa-ku, Tokyo,141-0021, JAPAN
TEL: +81-03-5740-6181 / FAX: +81-03-5740-6185 / E-mail: info@npo-bmsa.org

Effect test of photocatalyst sample against human coronavirus

Purpose of the test

To examine the effect of photocatalyst on the glass against human coronavirus.

Experimental materials

1. Test substance (sample)
   Nano Zone Solution's photocatalyst on the glass
2. Test virus: Human Coronavirus 229E (ATCC VR-740)
   Test cells: MRC-5 Lang Fibroblast (ATCC 171)

Test method (compliant with ISO18184)

Main test

1) Add 100μL of human coronavirus to the sample above in the safety cabinet.
2) Leave the sample for two hours at 25℃ under LED light 1000lux . Washed the samples by 9mL of SCDLP culture medium.
3) Measure infectivity titer by plaque assay method for MRC-5.

Test result

The test results are shown in the table below.

Action time	Infectivity Titer (pfu/0.1ml)	Inactivated Rate(%)
Control	5.2×10^{6}	—
1 min.	3.1×10^{5}	94.038%
5 min	1.8×10^{4}	99.653%
30 min	4.2×10^{2}	99.991%
120 min	$<10^{1}$	99.999%

Conclusion

It was determined that Nano Zone Solution's photocatalyst had antiviral effect against human coronavirus as the result of this test showed that human coronavirus was decreased more than 10^{5} after 2 hours of action .time under the irradiation of visible LED light 1000 lux.

31st August 2020

Non-Profit Organization
Biomedical Science Association (BMSA)
President Shunsuke SEJIMA

Shunsuke Sejima