ACIBADEM LABCELL

COVID-19 EFFECTIVENESS TESTS

Company Name: NANOTEGO / ANTIMIC Surface Disinfectant

AIM:

The antiviral activities of their own products requested by the companies are tested on the Covıd-19 virus with SarS-CoV-2 virus which isolated in Acıbadem Labcell cGMP BSL-3 Laboratories.

METHOD:

ANTIMIC surface disinfectant of NANOTEGO company is added to the plate surface in a volume of 1ml and 2ml to cover the plate surface on a surface area of 10 square centimetre.

500 µl of 500 TCID50 dose of SarS-CoV-2 strain was added onto the surface and incubated for 5 minutes, 10 minutes and 30 minutes before incubation in Vero cell culture and then VERO cells were seeded at density $1x10^4$ cell/well in 96-well plates.

Virus and chemical mixtures were evenly distributed over each cell. In addition, only SarS-CoV-2 virus with a dose of 500TCID50 on Vero cell and Vero cell was used as Negative and Positive control. Afterwards, MTT protocol was applied to observe the spontaneous cytopathic effect of chemicals on the virus as well as the toxic effect of chemicals without virus.

As a result of incubation, the cell and the liquid supernatant were collected together and viral RNA isolation was isolated by using the Quick-RNA Viral Kit (Zymo Research, USA). The SARS-CoV-2 viral copy number is analyzed in Roche Lightcycler 96 by Quantitative RT-PCR analysis, following the QuantiVirus SARS-CoV-2 Assay (Diacarta) manufacturer's protocol.

RESULT:

Spontan Sitopatik Etki Analizi

Before the SARS-COV2 strain was incubated in Vero cell culture, it was incubated with the ANTIMIC surface disinfectant product for 5 minutes, 10 minutes and 30 minutes, and then it was cultivated on Vero Cell and incubated for 96 hours and when the spontaneous cytopathic effects were examined;

Table 1: Dilutions of Spontaneous Cytopathic Effect and Temporarily percentage values

Dilution Factor	**1:1**		
Time	**1 min**	**5 min**	**30 min**
Cell Viability	100	100	100
Viral Activity Inhibition (CPI)	111,8302	111,517	120,8072
SARS-COV2 viral suş	%0 viabilite		

As stated in Table 1; exposed to the virus for 5 minutes, 10 minutes and 30 minutes, ANTIMIC was coated with surface disinfectant and showed high antiviral effect on the non-dried surface over an increasing period of time.

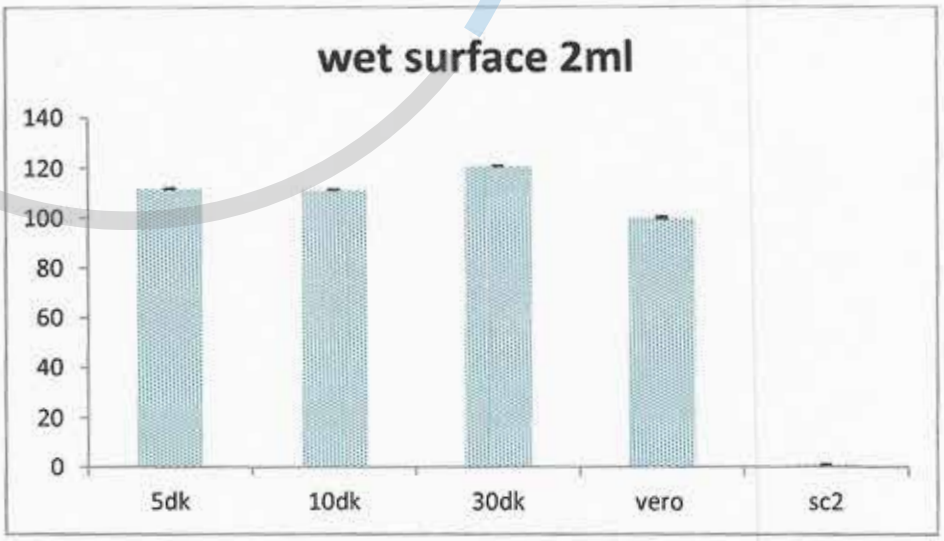

Figure 1. Temporal evaluation of cell viability in percentage value.

In addition, when direct and 1: 1 dilution ratios were tested on the Vero cell strain in order to observe the toxicity of the chemical, no toxic effect was found.

Effect Analysis on Viral Replication:

When the SARS-COV2 strain is exposed to the virus for 5 minutes, 10 minutes and 30 minutes before the non-dried surface coated with ANTIMIC surface disinfectant product is incubated in Vero cell culture, the result of quantitative RT-PCR analysis is indicated in Table 2.

Table 2: Time log values and copy numbers at 10-1 Dilution in real time analysis.

	Cq	anti-log	5x10^3 copy/ml dilution factor
Only SC2 10-1	22,08	3,20E+17	1,60E+21
2 ml-5 dk 10-1	33,55	1,80E+01	9,00E+04
2 ml-10 dk 10-1	33,18	6,20E+01	3,10E+05
2 ml-30 dk 10-1	33,23	5,30E+01	2,65E+05

In quantitative RT-PCR analyzes, before the SARS-COV2 strain was incubated in Vero cell culture; When the non-dried surface coated with ANTIMIC surface disinfectant product is exposed to the virus for 5 minutes, 10 minutes and 30 minutes; It was observed that it decreased the viral load of 16 logs during 5 min, 15 log for 10 min and 30 min.

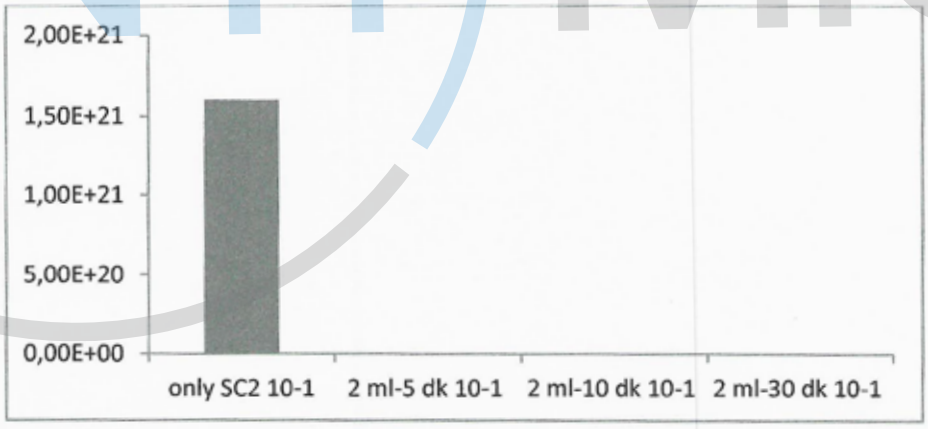

Figure 2. Comparison of copy numbers over time at dilution factor of $5x10^{-3}$.

REMARK:

In the tests performed on ANTIMIC Surface Disinfectant, the SARS-COV2 strain was incubated with the ANTIMIC surface disinfectant product for 5 minutes, 10 minutes and 30 minutes before incubating in Vero cell culture, and then it was planted on Vero Cell and incubated for 96 hours. Within these time intervals, it was determined that the disinfectant reduced virus viability 99% and virus copy number >15 log, and the product was observed to have a strong antiviral effect on SARS COV-2..

Prof. Ercument Ovali, M.D.
Hematologist
Acibadem Labcell Cellular Therapy Laboratory
Acibadem Mehmet Ali Aydinlar University, Icerenkoy,
Kayisdagi Cd. No: 32, 34752 Atasehir/Istanbul Turkey