SCIENTIFIC VETERINARY INSTITUTE "NOVI SAD"
21000 NOVI SAD, Rumenčki put 20
☎ 021/4895-308; Fax: 021/518-544; e-mail: niv@niv.ns.ac.rs




# REPORT OF ANALYSIS

**No: 19010** from 05.11.2020.

| | |
|---|---|
| Owner: | **„REAL S doo", Omladinskih brigada 86J/15, 11070, Belgrade, Serbia** |
| Ordering party: | Owner of the meterial |
| Sample : | Nano-silver impregnated canvas for the production of protective masks: ***"ALBO nanosilver filter"*** |
| Origin of the sample: | owner |
| No. and sign of the sample: | 19010 |
| Place and date of sampling: | Novi Sad, Serbia, 15.09.2020. |
| Number of samples: | 1 |
| Sampled by: | Owner and ordering party |
| Analysis: | Proving of antiviral activity of nano-silver impregnated canvas "*ALBO nanosilver filter*" against SARS-CoV-2 virus with molecular technique real-time RT-PCR (advanced "viability PCR" method) |
| Anamnesis: | |
| Condition of the sample upon receiving: | Appropriate |
| Date of receiving the sample: | 15.09.2020. |
| Examination completed: | 28.12.2020. |

**Remark if any:**

*The method marked with * are beyond the scope of accreditation.*

**HEAD OF DEPARTMENT FOR**
**epizootiology, clinical diagnostic and laboratory analysis**

seal

**Sava Lazić, PhD, DVM, Principal Research Fellow**

**Distribute to:**

1. Owner – Ordering party 2 copies
2. Archive

***STATEMENT:***

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НАУЧНИ ИНСТИТУТ ЗА ВЕТЕРИНАРСТВО НОВИ САД
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**DEPARTMENT FOR EPIZOOTIOLOGY, CLINICAL EXAMINATION AND LABORATORY ANALYSIS**
**Laboratory for Virology**
Report No.: 19010

## RESULTS OF ANALYSIS

| Examined characteristics | Examination method | Referral value |
|---|---|---|
| Analysis of antiviral activity * | Molecular technique *real-time RT-PCR* (advanced "Viability PCR" metod) | Positive / negative |

**Description of samples used and procedure:**
- Working virus stock in the experiment was the isolate of *SARS-CoV-2* virus, cultivated on VERO cell culture
- Test samples 1.1 P – 1.6 P are six samples of material (*ALBO nanosilver filter*) exposed to (soaked with) *SARS-CoV-2* virus isolate for 60 minutes. Median values of results after testing in duplicates are shown in table.
- Control samples PC 1-P – PC 3-P are three samples of *SARS-CoV-2* virus isolate that were used for testing. Median values of results after testing in duplicates are shown in table.
- Water as a negative test control and NTC as a mixture of test reagents.
- IC - internal control of the reaction whose detection indicates that there was no inhibition of the reaction.

**Findings in samples:**

| Label of the sample | Test samples | | Internal controls (IC) | Control samples | | Internal controls (IC) |
|---|---|---|---|---|---|---|
| | Label | Ct value SARS-CoV-2 | Ct values of IC | Label | Ct value SARS-CoV-2 | Ct values of IC |
| **ALBO nanosilver filter** incubation with virus 60 minute | 1.1 P | 37.65 | 32.44 | PC 1-P | 28.33 | 31.76 |
| | 1.2 P | 37.67 | 32.32 | PC 2-P | 28.49 | 31.41 |
| | 1.3 P | 38.59 | 32.04 | PC 3-P | 28.33 | 31.59 |
| | 1.4 P | 38.63 | 31.95 | Water | Negative | 31.30 |
| | 1.5 P | 38.50 | 32.03 | Water | Negative | 31.39 |
| | 1.6 P | 39.00 | 32.02 | Water | Negative | 31.52 |
| | | | | NTC | Negative | Not done |
| | | | | NTC | Negative | Not done |
| | | | | NTC | Negative | Not done |

* *used method are beyond the scope of accreditation*

**Comment:**
If we compare the values obtained by "viability real-time RT-PCR" method, which detects the RNA genome of only viable (complete / infectious) virus particles, we conclude that the ALBO nanosilver filter showed significant antiviral effect on SARS-CoV-2 virus which was reflected in a significant reduction in number of detectable viral genomes relative to the virus being tested. The mean Ct value determined by incubating the virus with an ALBO nanosilver filter for 60 minutes was Ct 38.34, and the mean Ct value of the virus tested was Ct 28.38. The maximum difference between the control and test samples was ≥ 10.67 Ct, and the smallest ≥ 9.16 Ct values (mean ≥ 38.34 - 26.38 = ≥ 9.96 Ct). Translated into the number of viral particles, i.e. detectable genomes of viable virus particles SARS-CoV-2, the difference between the tested material ALBO nanosilver filter with virus and control samples (virus tested), i.e. the reduction in the number of viable virus particles was from ≥ 2.75 log10 up to ≥ 3.20 log10, with an average of ≥ 2.99 log10 number of detectable viable viral genomes (about 1,000 times less viral genomes in treated samples)

**Novi Sad**, 28.12.2020.

**ANALYSED BY**
dr sci. vet. med. Tamaš Petrović

**VERIFIED BY:**
dr sci. vet. med. Tamaš Petrović