

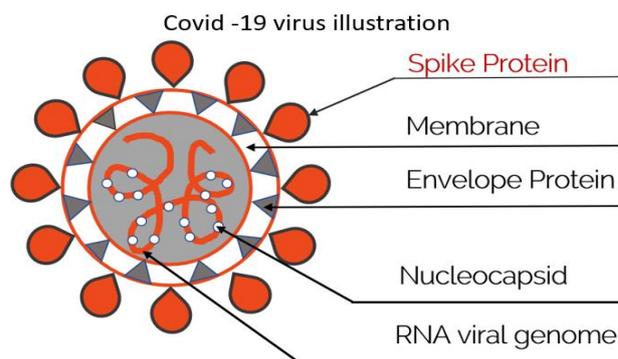
Covid-19 Elimination from Surfaces by Applying Enviro-Biotics® Bio-Control

The highly contagious SARS-CoV-2 (Covid-19) virus is transmitted by droplets, fomites and aerosols. Whereas aerosols float in the air for a while, droplets and fomites emitted by Covid-19 infected people, settle rapidly on indoor surfaces and objects, and persist there for days and even weeks.

The most common way to treat and disinfect contaminated areas is by using hazardous chemicals that are harmful, therefore can't be applied when people are around, and moreover, their efficiency is lost shortly after their application.

As part of the search for effective sustainable innovations, we have developed a new technology, a bio-control method that protects surfaces and objects and eliminates viruses by using environmental probiotics (Enviro-Biotics®) continuous dispersal.

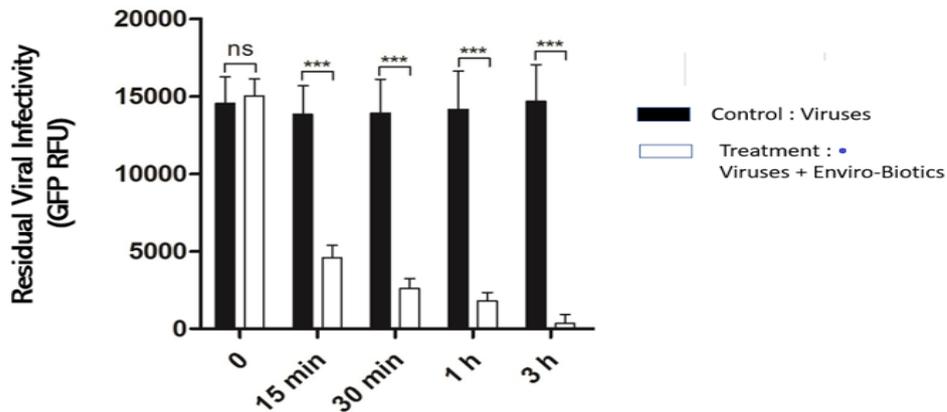
Enviro-Biotics® is a microbial suspension containing beneficial bacteria that breaks down the Covid-19 Spike protein which is the cause for the viral attachment to the human cell, membrane fusion and subsequent infection. Therefore, inactivation of the spike protein, prevents the virus-cell attachment and blocks the viral infection.



In experiments that were carried out with the collaboration of Genova University's department of Experimental Medicine, it has been proven that our Enviro-Biotics® inactivates the Coronavirus particles.

Although the Enviro-Biotics® suspension was applied to the tested surface only 4 hours prior to the viral addition, our beneficial Bacillus bacteria incubation with the viral particles of Coronavirus resulted in a rapid inactivation of the viruses. Actually, 67% of the virus particles were neutralized within only 15 minutes and 97.7% of virus particles were inactivated by 3 hours as shown by the graphs below.

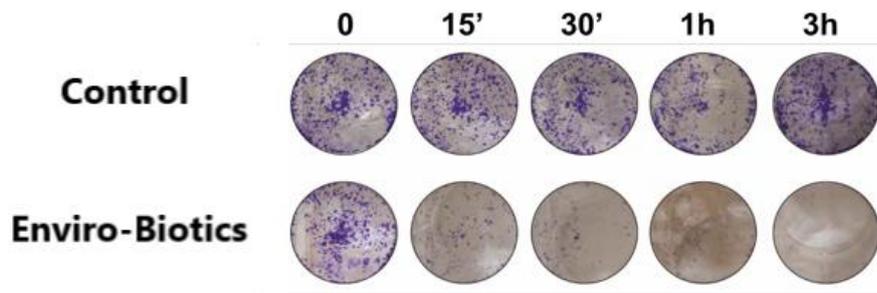
The effect of Enviro-Biotics on Covid-19 survival on surfaces



During this time, the viruses in the parallel untreated control surfaces were totally stable, indicating that there was no spontaneous viral count reduction, and the entire reduction of the viruses was made only by the Enviro-Biotics®.

Another validation of the virucidal efficiency of Enviro-Biotics® was exhibited by a colony forming assay. We have demonstrated a significant deactivation effect of Enviro-Biotics® on the viral survivability as depicted in the figure below.

In this assay, inactive viruses correlate with clear plates and indeed the viruses that were treated by Enviro-Biotics® significantly cleared the plates.



Enviro-Biotics® effect on Covid-19 persistence

The data presented in this study demonstrates that the microbial bio-control approach is applicable and efficient in preventing covid-19 infections originated from surfaces and objects. Applying Enviro-Biotics® Bacillus cells in indoor environments induces biologic deactivation of viral particles. The drastic viral survivability reduction demonstrated in this study is pertinent to any indoor space including public, health and transport sectors. Considering that most of its potent time, the Covid-19 exists on surfaces and objects, it is imperative to discover better ways to protect surfaces and objects against viral contaminations. The Enviro-Biotics® solution presents a breakthrough approach for such and should be considered with any implemented strategies designed to mitigate the infection of the current Covid-19 pandemic.