
INS to Develop COVID-19 Treatment with Peruvian Llama Nano Antibodies

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The National Health Institute (INS) will develop a possible treatment for COVID-19 using innovative technology based on recombinant nano antibodies of a Peruvian llama called "Tito".

The project —financed by the National Fund for Scientific, Technological and Technological Innovation Development ([Fondecyt](#))— will apply nano antibody technology (which INS has already implemented) to develop antibodies derived from camelids —in this case from llamas— capable of neutralizing the coronavirus (SARS-CoV-2) infection in vitro and in an animal model, such as hamsters.

According to the specialist, the investigation will begin by placing the coronavirus SARS-CoV-2 virus —obtained by means of cultivation and inactivated in the institution's laboratory— on Tito.

"Afterwards, Tito's immune response will be analyzed, and every time a good result is achieved, a sample of its lymphocytes will be taken to isolate the genes encoding the nano antibodies. Likewise, a genomic library will be created by cloning these genes and using other molecular biology methods," Bailon stated.

Moreover, he said, the researcher team will select the nano antibodies that are more specific for protein S of the virus, which is fundamental for the binding of the virus to the cells it infects.

"Then, we will evaluate the effectiveness of the nano antibodies to treat the virus infection in cell cultures and hamsters. If they are able to neutralize the infection effectively, the nano antibodies could be used in a subsequent clinical trial —which is not part of this study— to assess the feasibility of their use to treat people," he added.

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