Coronavirus Drug Development Update from NanoViricides, Inc.

Mar 16, 2020 - NanoViricides, Inc. (NYSE American: NNVC) (the "Company") a leader in the development of highly effective antiviral therapies based on a novel nanomedicines platform, is providing an update on its efforts towards drug development for the current novel coronavirus SARS-CoV-2 that causes COVID-19.The Company has completed the synthesis of a number of nanoviricide drug candidates for testing in just a few weeks after identification of virus-binding ligands. This was possible because the Company is boot-strapping its efforts on the basis of its inventory of novel custom chemicals in hand. Additionally, the polymer backbone was previously manufactured in multi-kilogram quantities. However, there can be no assurance that any of these candidates would show sufficient effectiveness and safety for human clinical development at this time.The Company has acquired and expanded two different, low-threat circulating coronaviruses in its own BSL2 lab, and has already expanded them to enable testing of drug candidates. One of these coronaviruses, namely NL63, uses the same ACE2 receptor on human cells as SARS-CoV-2, although it does not cause a similar severe disease in humans.If the Company's test candidates are effective against these cell culture studies against coronaviruses, then that would provide a strong rationale that they may be expected to be effective against the current SARS-CoV-2. Presently, the Company does not have any collaboration established for further testing of its drug candidates against SARS-CoV-2. The Company is working to establish such collaborations, however, there can be no assurance that we will be successful in establishing the necessary collaborations or that our drug candidates will succeed in further testing. In the past, the Company has established and worked on collaborations with the U.S. Center for Diseases Control and Prevention (CDC), as well as the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID).The Company has already successfully developed antiviral drug testing assays based on cell culture infection of certain low-threat coronaviruses viruses in our own BSL2 certified virology lab. Development of an assay to test the effectiveness of a drug candidate is an important milestone in the drug development process. We have been able to complete this milestone in just a few weeks because of the extensive experience and expertise in medium throughput drug testing antiviral assays development of our Senior Virologist.Testing of our drug candidates against these BSL2 coronavirus strains is expected to begin shortly in our BSL2 virology lab.As of March 11th, SARS-CoV-2 has caused at least 800 confirmed cases in more than 30 states, and the virus has led to more than 26 deaths in the U.S., with area lockdowns, quarantines, and state of emergency being declared in several states. The entire country of Italy is under quarantine. Japan is also experiencing a severe outbreak. This COVID-19 outbreak has caused cases in at least 99 countries, with confirmed cases totaling over 110,000, of which 62,000 have already recovered, with deaths of over 3,800 patients, according to CBS news (https://www.cbsnews.com/live-updates/coronavirus-outbreak-death-toll-us-infections-latest-news-updates-2020-03-09/). The health risks associated with the virus rise significantly with age and many younger, otherwise healthy people who contract it might show only mild symptoms, if any. It appears that the outbreaks in China and in South Korea are now showing signs of being controlled, with new cases having decreased significantly.The U.S. Government has approved $8.3 Billion for COVID-19 response that includes development of drugs as well as vaccines, patient care, containment, and education, in a holistic approach.Although vaccine development has started very quickly against the SARS-CoV-2, an effective vaccine may take at least 12-18 months before it can be used to treat patients.Viruses are known to escape antibody drugs and vaccines via mutations, although, in contrast, the NanoViricides platform technology enables development of a drug that a virus is unlikely to escape by mutation. This is because we develop biomimetics that are designed to interfere with the virus binding to its cognate cellular receptor, and are further capable of disabling the virus from binding to cells. Coronaviruses mutate less rapidly than other RNA viruses such as influenza and HIV.One of the coronaviruses we are using for testing of our drug candidates uses the same ACE2 receptor as the current SARS-CoV-2 virus (aka nCoV-2019). However, this coronavirus does not cause similar, severe disease in humans. Another coronavirus we are testing against uses a different but somewhat related receptor (in terms of biophysics). Investigating against both of these strains would allow us to examine which of the test candidates have more broad-spectrum effectiveness. However, there can be no assurance that successful results against these forms of coronavirus will lead to similar results against nCoV-2019 aka SARS-CoV-2. Moreover, the path to typical or standard drug development of any pharmaceutical product is extremely lenghty and requires substantial capital. However, regulatory agencies in China created expedited processes to enable rapid clinical testing of exploratory drug candidates. Accelerated pathways were also developed for enabling anti-Ebola clinical drug candidates in the 2017-18 epidemic in DRC. Nevertheless, there can be no assurance that even successful results against SARS-CoV-2 will lead to successful clinical trials or a successful pharmaceutical product, which is true of every drug development effort against SARS-CoV-2 at present.Previously, on January 30th, the Company confirmed that it is working on a drug to treat the SARS-Cov-2 virus infections. The Company said that it had successfully completed the important milestone of finding potential virus-binding ligands that mimic the ACE2 interaction with SARS-CoV (2002) using molecular modeling. The current coronavirus strain, namely SARS-CoV-2 is closely related to the 2002 SARS-CoV, and uses the same human cellular receptor. We have now completed the next two milestones, namely synthesis of test candidates, and development of anti-CoV assays for testing them.About

NanoViricidesNanoViricides, Inc. (www.nanoviricides.com) is a development stage company that is creating special purpose nanomaterials for antiviral therapy. The Company's novel nanoviricide(R) class of drug candidates are designed to specifically attack enveloped virus particles and to dismantle them. Our lead drug candidate is NV-HHV-101 with its first indication as dermal topical cream for the treatment of shingles rash. The Company is also developing drugs against a number of viral diseases including oral and genital Herpes, viral diseases of the eye including EKC and herpes keratitis, H1N1 swine flu, H5N1 bird flu, seasonal Influenza, HIV, Hepatitis C, Rabies, Dengue fever, and Ebola virus, among others.The Company's technology is based on broad, exclusive, sub-licensable, field licenses to drugs developed in these areas from TheraCour Pharma, Inc. The Company does not currently have a license to the coronavirus field, however, TheraCour has not denied any licenses to the Company. The Company typically begins the licensing process only after demonstrating effectiveness of some candidates in optimization stage.This press release contains forward-looking statements that reflect the Company's current expectation regarding future events. Actual events could differ materially and substantially from those projected herein and depend on a number of factors. Certain statements in this release, and other written or oral statements made by NanoViricides, Inc. are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors which are, in some cases, beyond the Company's control and which could, and likely will, materially affect actual results, levels of activity, performance or achievements. The Company assumes no obligation to publicly update or revise these forward-looking statements for any reason, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.Important factors that could cause actual results to differ materially from the company's expectations include, but are not limited to, those factors that are disclosed under the heading "Risk Factors" and elsewhere in documents filed by the company from time to time with the United States Securities and Exchange Commission and other regulatory authorities. Although it is not possible to predict or identify all such factors, they may include the following: demonstration and proof of principle in preclinical trials that a nanoviricide is safe and effective; successful development of our product candidates; our ability to seek and obtain regulatory approvals, including with respect to the indications we are seeking; the successful commercialization of our product candidates; and market acceptance of our products. FDA refers to US Food and Drug Administration. IND application refers to "Investigational New Drug" application. CMC refers to "Chemistry, Manufacture, and Controls".Contact:NanoViricides, Inc.info@nanoviricides.comPublic Relations Contact:MJ ClyburnTraDigital IRclyburn@tradigitalir.comSOURCE: NanoViricides, Inc.

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