

DST funded startup develops chemical free silver based disinfectant to fight COVID 19 pandemic

Weinnovate Biosolutions, a Pune based startup supported jointly by the Department of Science and Technology (DST) and Department of Biotechnology (DBT), has come up with a non-alcoholic aqueous-based Colloidal Silver solution uniquely made from its NanoAgCide technology for disinfecting hands and environmental surfaces.

This liquid is noninflammable and free of hazardous chemicals and can be an effective sanitizer to prevent the spread of the infection through contact – the prime method of transmission of the pandemic, thereby protecting health professionals and other infected people.

The colloidal silver solution of Weinnovate Biosolutions, which is based on the ability of the silver nanoparticles to prevent the synthesis of viral negative-strand RNA and viral budding, is free from hazardous chemicals and has no risk of inflammability compared to alcohol-based disinfectants.

The solution has undergone lab testing, and the manufacturers have received the test license. Preliminary work on synthesizing colloidal silver in a small scale and scale-up batch upto 5 liters has been conducted with reproducibility.

“We are aiming to manufacture primarily a minimum of 200 liters of colloidal silver solution per day with our manufacturing set up to cater to the demand of hand sanitization and disinfection. With our solution, we are positive to reduce the number in infection spread and helping India to be infection-free,” said Dr. Milind Choudhari, one of the founders of Weinnovate Biosolutions.



"Nanoparticles are rapidly emerging as effective solutions to a variety of issues related to COVID-19, from theranostics (therapy plus diagnostics) to disinfection to imaging. The relevance of nanoparticles is owing to their size (less than 100 nm), which is comparable to that of COVID-19 virus, and a plethora of functionalities such as targeting and drug delivery that can be tailored", said Prof. Ashutosh Sharma, Secretary, Department of Science & Technology

Silver nanoparticles have been found to be an effective antiviral which act against many deadly viruses like HIV, Hepatitis B, Herpes simplex virus, Influenza virus, and so on. Recent reports have suggested the role of Glutathione capped-Ag₂S NCs (Silver nanoclusters) in inhibiting the proliferation of Coronavirus by preventing the synthesis of viral negative-strand RNA and viral budding. Research by scientists like Shingo Nakamura of National Defense Medical College Research Institute, Saitama, Japan, suggests Ag NP-based materials will be able to prevent the contact infection of health care workers (HCWs), besides preventing patient infection. Thus colloidal silver on which the technology of the sanitizers of Weinnovate Biosolutions is based can help arrest Covid -19 spread by blocking the RNA replication and infectivity by blocking the surface glycoproteins. An Indian patent has been filed for the process of making of colloidal silver, and a test license for making hand sanitizers and disinfectants has been granted.

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