



The Use of More Antiviral Herbs to Treat Covid-19 has been Confirmed

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Introduction

Many natural compounds have been investigated for their antiviral properties against various viruses. The focus has been on investigating natural compounds for their possible antiviral properties against SARS-CoV-2 since the coronavirus 2019 (COVID-19) epidemic. Many naturally produced substances are undergoing clinical trials as a result of this [1].

Lectins are proteins that bind carbohydrate structures. They are a class of naturally generated chemicals. They can bind to viral envelope glycoproteins and have antiviral activity against a variety of viruses [2]. The researchers looked at the anti-SARS-CoV-2 potential of WGA in this in vitro study.

WGA's antiviral efficacy against SARS-CoV-2 was tested by infection experiments. A Wuhan type SARS-CoV-2 isolate from a patient was used to infect Vero B4 cells. After then, different concentrations of WGA were applied to the infected cells. The WGA treatment inhibited SARS-CoV-2 replication. Furthermore, this decrease was dose-dependent. This was the first proof that WGA has antiviral properties.

Because lectins hinder viral entry in general, WGA was thought to have a similar method of inhibition. The researchers tested this by pre-incubating SARS-CoV-2 patient isolates with various doses of WGA before infecting Vero B4 cells. The viral infection of cells was entirely stopped by WGA. As a result, it works as an entry deterrent. WGA has the potential to interact physically with the virus and neutralise it. Pull-down experiments revealed WGA's direct binding to SARS-CoV-2 virus particles.

WGA has been proven to have cytotoxic effect against a variety of cancer cell lines, including pancreatic, liver, bone, and skin cancers. In low doses, it showed time- and dose-dependent cytotoxicity against acute myeloid leukaemia cells, but had no effect on normal cells. Even if WGA has antiviral action, it will be useless as a treatment if it is harmful to host cells. As a result, the researchers conducted toxicity tests on all of the cell lines utilised in the study. WGA had no cytotoxic properties. Although the lethal dose differed throughout the cell lines studied, there was still a large therapeutic window of multiple log stages [3].

WGA was also evaluated for antiviral efficacy against two SARS-CoV-2 strains, Alpha and Beta. Calu-3 cells were used in the cell infection tests. The Alpha and Beta versions were both inhibited by WGA, albeit at different concentrations.

WGA inhibits the replication of other viruses

WGA's antiviral activity was also tested against human coronavirus (hCoV) OC43, another member of the Betacoronavirus family. Also known as human Rhinovirus 1A (hRV1a), human Rhinovirus 8 (hRV8), and Coxsackievirus A10. WGA has a moderate antiviral effect against the prevalent hCoV OC43 strain. WGA, on the other hand, did not prevent other virus families from attaching and replicating, resulting in upper respiratory tract infections [4].

Natural chemicals offer better toxicological profiles, bigger therapeutic windows, less side effects, and a speedier admission process than manufactured medications, making them more appealing for therapeutic research. Natural compounds have been shown to be effective in the treatment of a variety of ailments, including metabolic disorders and cancer. They've also shown promise against a variety of viruses, such as SARS-CoV and the Middle East respiratory syndrome virus (MERS-CoV).

WGA may have favourable preventive and therapeutic effects, according to this study. It would be an easily distributable drug in the current and future pandemics due to its low cytotoxicity, large therapeutic window, and abundant natural availability.

References

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