

## Natural Neuroimmunomodulation in Coronavirus Infection

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### Abstract

Dysbiosis of the nasopharyngeal microbiome attracts dysbiosis of the intestinal microbiome and activation of the intestinal microbiome-brain axis. If the first sign of the disease is quickly intervened with the modulation of the activity of the microbiome, implicitly of the immune system (neuroimmunomodulation), the appearance of the disease is eliminated. There is the microbiome: buccal, nasal, intestinal, cardiac, cutaneous and even the microbiome in the brain with which Covid-19 interacts. When the evolution is complicated, it is necessary to intervene with drug treatment to support the affected organs. Although there is also renal impairment, no coronaviruses or traces were found in the patients' urine. Knowing that the infection also causes digestive symptoms, coronaviruses have been shown in faeces. It is said that in 1-2% of cases Covid-19 reaches the bloodstream. The microbiome is essential for promoting immune function to prevent and combat disease. Specifically, with regard to viral infections, there must be an adequate immune response to protect the body. The intestinal microbiota with low diversity will consequently lead to a deficient immune function. The microbiota, the intestine and the brain communicate through the microbiota-intestine-brain axis in a bidirectional way. We assume that the Covid-19 virus creates a dysbiosis of the intestinal microbiome. A healthy gut microbiome is crucial in creating an adequate response to coronavirus. A diverse microbiome is a healthy microbiome, which contains many different species that each play a role in immunity and health. The motivation of the project is the study of the influence of the intestinal microbiota in terms of health and the appearance of symptoms in Covid-19 infection. With the help of Deniplant brand natural remedies, the authors have developed several products for autoimmune, metabolic and neurological diseases that act as immunomodulators of the human microbiome.

**Key words:** intestinal microbiome, Covid-19 infection, natural remedies, natural neuroimmunomodulation.

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