Alkaloids: Therapeutic Potential against Human Coronaviruses

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Abstract

Alkaloids are a class of natural products known to have wide pharmacological activity and have great potential for the development of new drugs to treat a wide array of pathologies. Some alkaloids have antiviral activity and/or have been used as prototypes in the development of
synthetic antiviral drugs. In this study, eleven anti-coronavirus alkaloids were identified from the scientific literature and their potential therapeutic value against severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is discussed. In this study, in silico studies showed an a_nity of the alkaloids for binding to the receptor-binding domain of the SARS-CoV-2 spike protein, putatively preventing it from binding to the host cell. Lastly, several mechanisms for the known anti-coronavirus activity of alkaloids were discussed, showing that the alkaloids are interesting compounds with
potential use as bioactive agents against SARS-CoV-2.

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