R11. Challenges and future directions of potential natural products leads against 2019-nCoV outbreak

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Challenges and future directions of potential natural products leads against 2019-nCoV outbreak

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The chemical structure of the bark of Alnus japonica exhibited biologically active compounds for combination therapy of COVID-19 infections. This short review rationalized different key natural products with known activity against coronaviruses as potential leads against COVID-19 [1].

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ABSTRACT

Chloroquine, the first small molecule Food and Drug Administration (FDA) approved to treat COVID-19, later revoked, was impeded and developed from quinine sharing the same quinoline core (Fig. 1). Quinine is the biosynthetic component, an old antimalarial agent, it was isolated from the bark of Cinchona officinalis and other related species of Montevideum. (Fig. 3) to have potent activity against human coronavirus OC43 infections [4].

Several alkaloids have shown antiviral activity, for example, Kim et al. 2019, showed that two-butyloxyquinolines alkaloids such as, tert-aramine (1), fhagminoline (2), and hydroxychloroquine (3) isolated from Styraxina serranella and other related species of Montevideum, (Fig. 3) to have potent activity against human coronavirus OC43 infections [4].

In 2005, Lin et al. studied phenolic compounds which were evaluated for their inhibitory effects on the SARS-CoV-2 NS3pro. Also, epigallocatechin (9) and hesperidin (10) dose-dependently inhibited cleavage activity of the 3Cpro in vitro vitro cell-free and cell-based assays, the IC50 values of 6.66 µM (9) and hesperidin (10) were 112 µM and 60 µM, respectively [5].

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