Activity of Avicennia marina against COVID 19 through deactivation of NSP15 Endo-ribonuclease from SARS CoV-2 (6VWW)

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Abstract: An in-silico study was performed to determine the activity of Avicennia marina against COVID 19. Molecular docking using Biovia Discovery Studio was performed to identify the phytochemical responsible to deactivate NSP15 Endo-ribonuclease from SARS CoV-2 (6VWW) enzyme. It was found that Salicylic acid helped to prevent COVID 19.

Introduction: Avicennia marina is known for its medicinal activities. White mangrove is used in traditional medicine as several medically active components are present in the plant including iridoid glucosides, flavonoids and naphthoquinone derivatives. They have strong antiproliferative and moderate cytotoxic activities as well as antibacterial effects. The resin from the bark is used to treat snake bites and to remove the placenta after childbirth. Leaf and bark decoctions are used as an anodyne and are applied externally against scabies. The wood ash has been used to treat skin complaints. Aqueous, ethanol and butanol crude extracts of the aerial parts of the plant were tested for antimicrobial activity.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophytes
Class	Angiosperms
Order	Lamiales
Family	Acanthaceae
Genus	Avicennia
Species	marina

Major phytochemicals present in the plant are:

a. Tangeretin
b. Salicylic acid
c. Pelletierine
d. Digoxin

One of the major enzymes required for the survival of the organism causing COVID 19 is NSP15 Endo-ribonuclease from SARS CoV-2 (6VWW) enzyme. The objective of this work is to find the