

## Activity of *Wickstroemia indica* against COVID 19 through deactivation of SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M)

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**Abstract:** An in-silico study was performed to determine the activity of *Wickstroemia indica* against COVID 19. Molecular docking using Biovia Discovery Studio was performed to identify the phytochemical responsible to deactivate SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M) enzyme. It was found that Zingiberene helped to prevent COVID 19.

**Introduction:** *Wickstroemia indica* is known for its medicinal activities. It is used in traditional Chinese medicine. This plant has antipyretic, detoxicant, expectorant, vermifuge, and abortifacient properties used in clinical practice in China. An alcoholic extract of the plant was found to contain daphnoretin, chrysophanol, myricitrin and rutin. The extract of *W. indica* displays antimicrobial and anti-inflammatory activities in vitro.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophytes
Class	Angiosperms
Order	Malvales
Family	Thymelaeaceae
Genus	<i>Wickstroemia</i>
Species	<i>indica</i>

Major phytochemicals present in the plant are:

- a. Naringin
- b. Daidzein
- c. Peonidin
- d. Zingiberene

One of the major enzymes required for the survival of the organism causing COVID 19 is SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M) enzyme. The objective of this work is to find the phytochemical that can deactivate the enzyme, thereby preventing the physiological activity of the organism.