

Activity of *Alpinia officinarum* against COVID 19 through deactivation of papain-like protease of SARS CoV-2 (6W9C)

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Abstract: An in-silico study was performed to determine the activity of *Alpinia officinarum* against COVID 19. Molecular docking using Biovia Discovery Studio was performed to identify the phytochemical responsible to deactivate papain-like protease of SARS CoV-2 (6W9C) enzyme. It was found that Luteolin helped to prevent COVID 19.

Introduction: *Alpinia officinarum* is known for its medicinal activities. In Asia the rhizomes are ground to powder for use in curries, drinks, and jellies. In India an extract is used in perfumes. *Alpinia officinarum* contains high concentrations of the flavonol galangin. Historically, the rhizomes were reputed to have stimulant and digestive effects.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophytes
Class	Angiosperms
Order	Zingiberales
Family	Zingiberaceae
Genus	<i>Alpinia</i>
Species	<i>officinarum</i>

Major phytochemicals present in the plant are:

- Resveratrol
- Phenyl isothiocyanate
- Luteolin
- Ferulic acid

One of the major enzymes required for the survival of the organism causing COVID 19 is papain-like protease of SARS CoV-2 (6W9C) enzyme. The objective of this work is to find the phytochemical that can deactivate the enzyme, thereby preventing the physiological activity of the organism.