

Activity of *Gardenia* sp. against COVID 19 through deactivation of papain-like protease of SARS CoV-2 (6W9C)

Arpita Subhadarshini¹, Yashaswi Nayak²

¹190705180084@cutm.ac.in

²yashaswi.nayak@cutm.ac.in

Centurion University of Technology and Management, Odisha, India

Abstract: An in-silico study was performed to determine the activity of *Gardenia* sp. 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 Genistein and Quercetin helped to prevent COVID 19.

Introduction: *Gardenia* sp. is known for its medicinal activities. *Gardenia* plants are known for its strong sweet scent of their flowers. *Gardenia jasminoides* (syn. *G. grandiflora*, *G. Florida*) is cultivated as a house plant. Its fruit is used as a yellow dye and used on fabric and food. Its fruits are also used in traditional Chinese medicine for their clearing, calming, and cooling properties.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophytes
Class	Angiosperms
Order	Gentianales
Family	Rubiaceae
Genus	Gardenieae
Species	<i>Gardenia</i>

Major phytochemicals present in the plant are:

- Pelargonidin
- Genistein
- Quercetin
- Daidzein

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.