

Activity of *Nigelia sativa* 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 *Nigelia sativa* 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 Kaempferol helped to prevent COVID 19.

Introduction: *Nigelia sativa* is known for its medicinal activities. *Nigella sativa* is used as a spice, natural seasoning, or flavoring. The seeds of *N. sativa* are used as a spice in many cuisines. They can be used as a seasoning in recipes with pod fruit, vegetables, salads, and poultry. The black seeds are used to flavour bread products, and are used as part of the spice mixture. *Nigella* is also used in tresse cheese, a braided string cheese called majdouleh or majdouli in the Middle East.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophytes
Class	Angiosperms
Order	Ranunculales
Family	Ranunculaceae
Genus	<i>Nigella</i>
Species	<i>sativa</i>

Major phytochemicals present in the plant are:

- Theobromine
- Kaempferol
- Limonene
- Malvidin

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.