Activity of Nigelia sativa 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 Nigelia sativa 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 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	Nigella
Species	sativa

Major phytochemicals present in the plant are:

a. Theobromine
b. Kaempferol
c. Limonene
d. Malvidin

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.

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