

Activity of *Hottuynia cordata* 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 *Hottuynia cordata* 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 Coumarin helped to prevent COVID 19.

Introduction: *Hottuynia cordata* is known for its medicinal activities. It is used as a fresh herbal garnish. In northeastern India, it is commonly used in salads and as a garnish over side dishes. The tender roots can also be ground into chutneys along with dry meat or fish, chilies, and tamarind. It is taken raw as salad and cooked along with fish as fish curry. In Japan and Korea, its dried leaves may be used as a tea. *Hottuynia cordata* was used in traditional Chinese medicine.

The plant is classified as follows:

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| Kingdom | Plantae |
| Division | Tracheophytes |
| Class | Angiosperms |
| Order | Piperales |
| Family | Saururaceae |
| Genus | <i>Hottuynia</i> |
| Species | <i>cordata</i> |

Major phytochemicals present in the plant are:

- Lupeol
- Peonidin
- Coumarin
- 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.