

Activity of *Rubia cardifolia* against Hepatitis C through deactivation of Hepatitis C Virus RNA-Dependent RNA polymerase (5PZL)

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Abstract: An in-silico study was performed to determine the activity of *Rubia cardifolia* against Hepatitis C. Molecular docking using Biovia Discovery Studio was performed to identify the phytochemical responsible to deactivate Hepatitis C Virus RNA-Dependent RNA polymerase (5PZL) enzyme. It was found that Theobromine helped to prevent Hepatitis C.

Introduction: *Rubia cardifolia* is known for its medicinal activities. *Rubia cordifolia* role in supporting heart health is evidenced by traditional and reported activities which show that it act as potent blood purifier, antioxidant, diuretic, calcium channel blocker, antiplatelet, antidiabetic, antiinflammatory, antistress, immunomodulator etc.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophyta
Class	Magnoliopsida
Order	Gentianales
Family	Rubiaceae
Genus	Rubia
Species	cordifolia

Major phytochemicals present in the plant are:

- Theobromine
- Peonidin
- Limonene
- Malvidin

One of the major enzymes required for the survival of the organism causing Hepatitis C is Hepatitis C Virus RNA-Dependent RNA polymerase (5PZL) enzyme. The objective of this work is to find the phytochemical that can deactivate the enzyme, thereby preventing the physiological activity of the organism.