

## Salidroside to Treat Dengue

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A natural compound called salidroside can be used to reduce dengue virus infection, claim scientists from the Defense Research and Development Organization, Delhi in their recent study published in the journal Archives of Virology.

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Dengue is a mosquito-borne viral infection with symptoms that range from mild flu to fatal hemorrhage and shock syndrome. As per the WHO 2002 report, an estimated 50 million people are infected from dengue annually worldwide. Dengue virus or DENV has four known serotypes, DENV 1-4, of which DENV2 may cause fatality if not managed appropriately. To date, there is no cure or licensed drug available for dengue. Hydrating the patient by fluids, and providing drugs such as acetaminophen relieve the symptoms but do not kill the virus. Hence, scientists are continuously searching for and screening anti-dengue viral compounds- both natural and synthetic.

Scientists at the DIPAS, Defense Research and Development Organization, Delhi have tested Salidroside- a compound initially isolated from the plant *Rhodiola rosea* commonly known as golden root, for its anti-dengue virus properties. Salidroside was found to be non-toxic to two cell lines, human monocyte cell line and green monkey kidney cell line. The researchers found that THP-1 cell line and blood cells from healthy volunteers showed lower viral infection when treated with 166 $\mu$ M salidroside for 48 hours. The authors provide evidence that salidroside treatment reduces inflammation that could limit the spread and symptoms of viral infection. Salidroside also increased the expression of a pattern recognition receptor RIG-1 that mediates downstream cytokine and interferon signaling that could help elicit an immune response.

The authors claim, "... (their study) showed that salidroside has potent anti-dengue-virus activity", however, the data is limiting, the mechanism is plausible, hence, it needs to be validated with patient samples, animal models and clinical studies to establish its pharmacological relevance.

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