

## Indian scientists find new anti-diabetic drug from plant source

By Bhavya Khullar  
Twitter handle: @BhavyaSc

**New Delhi, April 28 (India Science Wire):** Indian scientists have found that a plant-derived substance called chalcone can be used to make effective anti-diabetic drug. They have found that chalcone, which is ubiquitously found in many plants, improves insulin sensitivity and reduces blood glucose levels in the same way as commercially available anti-diabetic drugs.

Patients with type-2 diabetes are unable to utilize sugars properly. After a meal, their blood glucose levels remain elevated for prolonged periods of time. Gradually their muscles become insensitive to insulin, the hormone that converts unspent blood glucose into glycogen which is stored in the liver. Since the amount of glycogen also reduces with time, patients develop cholesterol disorders.

Scientists from the Central Drug Research Institute (CDRI), Lucknow, have reported that treating muscle cells with a particular type of chalcone can improve glucose uptake. This makes it particularly useful for diabetic patients. Since their muscles are insensitive to insulin resulting in poor glucose uptake, chalcone can help manage diabetes by improving glucose uptake. Of several chalcones tested, one – aryloxypropanolamine- had anti-diabetic properties.

The effects of chalcone on blood glucose have been studied in laboratory rats which were fed on both commercially available anti-diabetic drugs like metformin and pioglitazone, and chalcone. It was found that chalcone was as effective as other drugs in reducing blood glucose levels.

“Chalcone significantly inhibited the rise of blood glucose in animals and brought back the glucose levels to normal much earlier than commercial anti-diabetic drugs. Diabetic mice showed a decrease in total cholesterol, LDL-cholesterol levels, and increased serum HDL-cholesterol like those of commercial anti-diabetic drugs”, scientists have observed in their study published in journal *Current Science*. Chalcones continues to function in the body for almost a day.

In addition to its efficacy, animal studies confirmed that chalcone is non-toxic and safe. It is stable under human stomach-like conditions, invigorating its potential as a good drug.

“The chalcone compound offers a promising lead for development as a drug for the management of type-2 diabetes mellitus”, say scientists.

The research team included Poonam Shukla, Mavurapu Satyanarayana, Prem C. Verma, Jaya Tiwari, Atma P Dwivedi, Rohit Srivastava, Neha Rehuja, Swayam P Srivastava, Sudeep Gautam, Akhilesh K Tamrakar, Anil K Dwivedi, Hari N. Kushwaha, Nagsen Gautam, Shio K Singh, Mukesh Srivastava, Chandishwar Nath, Ram Raghubir, Arvind K Srivastava, and Ram Pratap. **(India Science Wire)**