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Purple vegetables and tubers may have anti-diabetic properties: Study

Anthocyanins in plants have properties that reduce the risk of type 2 diabetes

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The red, purple and blue pigments in fruits, vegetables, and tubers called anthocyanins can reduce the risk of diabetes by affecting energy metabolism, gut microbiota, and inflammation. A new review article comparing the research results in the topic shows that the beneficial effect of anthocyanins on type 2 diabetes is increased if the anthocyanin is acylated, meaning that an acyl group is added to the sugar moieties of anthocyanin.

A great amount of acylated anthocyanins can be found in purple potatoes, purple sweet potatoes, radishes, purple carrots and red cabbages, whereas bilberries and mulberries contain mostly nonacylated anthocyanins. Acylated anthocyanins are poorly absorbed in digestion, but they have probiotic properties and reduce the risk of diabetes more efficiently than nonacylated anthocyanins.

"The studies have shown that, in addition to changing physical and chemical properties, the acylation affects how the anthocyanins are absorbed and metabolised," says researcher Kang Chen at Food Sciences Unit, University of Turku, Finland.

Glucose transporters are involved in anthocyanin absorption, but different glucose transporters are responsible for the absorption of acylated and nonacylated anthocyanins. The acylated and nonacylated anthocyanins also have different impacts on the enzymes involved in metabolism.

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