

# Sulforaphane in broccoli sprouts found to improve glucose levels in diabetics

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broccoli

A team of researchers from Sweden, the U.S. and Switzerland has found that treating rat liver cells with a compound called sulforaphane, which is found in cruciferous vegetables, reduced production of glucose. In their paper published in *Science Translational Medicine*, the group outlines the methods they used to isolate the compound and what they found when testing it with liver cells and in human patients.

Type 2 diabetes has been in the news a lot in the past several years due to its ties to the obesity epidemic in several countries, particularly the U.S. Prior research has shown that it is a condition in which the body mishandles glucose—cells fail to use insulin properly, leading to higher [glucose levels](#), which can cause a wide variety of health problems. Current treatment includes modifying the diet and taking drugs such as

metformin. But because the drugs used to treat diabetes can cause other problems, such as [liver damage](#), researchers continue to look for alternatives. In this new effort, the researchers sought to find a compound that could alleviate symptoms in a more natural way. They created a [genetic signature](#) for the disease based on 50 genes that have previously been linked to the disorder and fed the results into a database, which used the genetic signature to look for [compounds](#) specifically related to gene expression in liver cells—sulforaphane showed the strongest known effects.

The researchers then cultured [liver cells](#) from rats with type 2 diabetes and applied sulforaphane to see what would happen—doing so caused the cells to produce less glucose. Optimistic about their results, the researchers next tested the compound on 97 obese human volunteers with type 2 diabetes over a 12-week period—this was possible because sulforaphane is a compound naturally occurring in [cruciferous vegetables](#) such as broccoli sprouts. The researchers report that those given the compound showed a significant reduction in glucose levels (while fasting).

The researchers acknowledge that their results are preliminary and that more testing of the compound will be needed to prove that the compound or simply eating the right vegetables might someday replace drugs used to treat type 2 diabetes. They note also that their technique for discovering the compound's usefulness in treating the disease could very well be applied to other diseases.

**More information:** *Science Translational Medicine* (2017). DOI: 10.1126/scitranslmed.aah4477

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