

Prune juice not necessary: New research should make bowel movements easier

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If you hate prune juice and chalky fiber supplements, just sit down and relax. Help is on the way. In a research report published online in *The FASEB Journal*, a team of researchers has discovered a new way to make it a lot easier to go to the bathroom, especially when all other methods fail. Specifically, they have found a group of nerve ending receptors which, when stimulated, causes the bowels to pass waste, and the specific receptor needed to activate bowel clearance. Furthermore, they tested chemicals that work with those receptors, providing a blueprint for the development of new laxatives.

"We hope that the receptor identified by our study would be exploited more in the design of drugs to treat constipation," said Bindu Chandrasekharan, a researcher from Emory University who was involved in the study.

The research involved two groups of mice, focusing on a type of receptor also present on human nerves in the gut (a type of adenosine receptor). The first group of mice had normal adenosine receptors on these nerves and normal bowel movements. The second group of mice completely lacked these adenosine receptors and showed familiar signs of constipation. The researchers started with simple experiments such as comparing the wet weight, dry weight, and water content in the stools of both groups. The mice were also made to drink a dye not absorbed by the body to see how it passed or did not pass. In addition, the researchers used microscopic lasers to separate the [nerve](#) cells from the bowel to determine exactly where the receptors are located. Then they tested

various chemicals that can activate or inhibit the nerve receptors.

"I actually like prune juice, but I find the study to be very compelling," said Gerald Weissmann, M.D, Editor-in-Chief of The [FASEB Journal](#).

"Here's why: First, we can look forward to a solution to what is sometimes a serious problem, especially infants and the elderly. Second, it's the first definitive proof that these receptors, the adenosine receptors, control bowel function. This discovery promises to yield agents that will permit us to sit down and ease up in the middle of a busy day."

More information: Bindu P. Chandrasekharan, Vasantha L. Kolachala, Guillaume Dalmasso, Didier Merlin, Katya Ravid, Shanthi V. Sitaraman, and Shanthi Srinivasan. Adenosine 2B receptors (A2BAR) on enteric neurons regulate murine distal colonic motility. FASEB J.

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