

Antioxidant in green tea activates microbes to improve digestive health in mice


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Video Byte

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Abstract

Polyphenols are micronutrients found in a variety of plant-based foods, including red wine, chocolate, and green tea. Daily consumption of polyphenols offers several health benefits. The polyphenol EGCG, found in green tea, possesses anti-inflammatory properties and has been linked to a reduced risk of inflammatory bowel disease (IBD). But one important factor that's remained underexplored in studies of EGCG is the effect of the gut microbiome. Now, a new study of gut microbes in mice may pave the way for understanding EGCG's anti-inflammatory effects in the intestine. Researchers first confirmed that feeding EGCG to mice with colitis alleviated symptoms of disease. Experiments then showed that EGCG altered the makeup and function of the intestinal microbial community. The team found that EGCG had the same protective and microbiome-altering effects even when given to mice before they developed colitis. To validate the role of the gut microbiome, the researchers transplanted microbes from EGCG-fed mice into mice with colitis through fecal microbiota transplantation (FMT). Results showed that FMT did in fact reduce inflammation associated with colitis. The findings highlight the importance of the gut microbiome to EGCG's therapeutic effects and could point to new ways of targeting digestive disease through the diet.