

REGULATOR OF G PROTEIN SIGNALING (RGS) PROTEIN 6 BLUNTS THE EFFECT OF CANNABINOIDS ON INTESTINAL MOTILITY AND VISCERAL PAIN SENSATION

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Poster

Colorectal

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A study using RGS6 knockout mice identifies RGS6 protein as a regulator of intestinal motility and cannabinoid-mediated analgesia in the gastrointestinal tract.

KEY POINTS

- RNA sequencing and qPCR analyses in mouse ileum and colon showed that Rgs2, 5, and 6 are the most abundant transcripts, with RGS6 exhibiting the highest protein expression including in intestinal intraepithelial lymphocytes
- RGS6 knockout mice exhibited increased intestinal motility under physiological conditions, resistance to stress-induced diarrhea, and an anti-nociceptive phenotype with enhanced susceptibility to the analgesic effect of the cannabinoid agonist WIN 55,212-2
- RGS6 expression increased significantly in mouse colon samples during intestinal inflammation, though RGS6 knockout did not impact colitis severity in the DSS-induced model
- The authors suggest RGS6 as a candidate drug target in the GI tract, proposing that its blockade might increase cannabinoid potency as standalone or adjunct therapy, with further experiments ongoing

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