

THE SITE OF SCFA ABSORPTION IN THE GUT (SMALL INTESTINE VS. COLON) AFFECTS CIRCULATING CONCENTRATIONS AND THE RELEASE OF APPETITE REGULATING HORMONES GLP-1 AND PYY

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A randomized crossover study in 28 healthy adults found that the intestinal site of short-chain fatty acid administration determines whether SCFA reach systemic circulation or stimulate gut hormone release.

KEY POINTS

- Small intestinal SCFA delivery produced significantly higher circulating concentrations of acetate, propionate, and butyrate compared to colonic delivery across all three fatty acids.
- Colonic SCFA administration stimulated greater PYY release than small intestinal delivery, while GLP-1 release did not differ significantly between the two sites, despite both sites increasing both hormones compared to placebo.
- Small intestinal SCFA reduced hunger and prospective food consumption and increased fullness and satiation compared to placebo, while colonic delivery increased satiation and reduced prospective consumption.
- Despite increased gut hormone release with SCFA administration at both sites, glucose homeostasis remained unaffected throughout the 8-hour observation period.

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