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Summary

GUT MICROBIOTA PRODUCTION OF INDOLE-3-CARBOXALDEHYDE INHIBITS INTESTINAL MOTILITY OF MICE

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UEG Week Copenhagen 2023 | Poster

Colorectal

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A study combining 16S rRNA sequencing and metabolomics in human stool samples and mouse models identifies ruminococcus_lactaris and its metabolite indole-3-carboxaldehyde as potential contributors to constipation.

KEY POINTS

- The abundance of ruminococcus_lactaris and the metabolite indole-3-carboxaldehyde (3-IAId) were both elevated in stool samples from constipation patients compared to healthy donors, and the two showed positive correlation
- Ruminococcus_lactaris was confirmed to produce 3-IAId in vitro
- Fecal microbiota transplantation from constipation patients into SPF mice prolonged gastrointestinal transit time, and monocolonization with ruminococcus_lactaris alone induced constipation in SPF mice
- Treatment with 3-IAId inhibited peristaltic contraction of the colon in mice both in vivo and in vitro
- The authors propose 3-IAId as a novel biomarker for constipation

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