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Summary

BIFIDOBACTERIUM ANIMALIS INDUCES ANTIVIRAL RESPONSES IN HUMAN PRIMARY EPITHELIAL CELLS DERIVED FROM ILEAL AND COLONIC ORGANOIDS

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Colorectal

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Two probiotic strains upregulate antiviral gene expression in human intestinal organoid-derived epithelial monolayers, with region-specific and strain-specific effects observed.

KEY POINTS

- Exposure to L. rhamnosus GG® and B. animalis ssp. lactis BB-12 significantly increased antiviral cytokine IFNB expression in ileum-derived monolayers but not in colon-derived monolayers compared to untreated controls.
- B. animalis ssp. lactis BB-12, but not L. rhamnosus GG®, significantly induced OAS1 expression, a gene involved in inhibiting viral replication, in both ileum and colon-derived monolayers.
- The study used organoid-derived monolayers from non-inflamed ileal and colonic mucosa of inflammatory bowel disease patients to evaluate immunomodulatory effects of probiotics on primary human intestinal epithelial cells.
- The authors suggest these preliminary findings present a promising avenue for prevention and management of viral gastroenteritis, though further research is needed.

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