

GLUTEN DIGESTION BY THE DUODENAL MICROBIOME FROM FUNCTIONAL DYSPEPSIA PATIENTS PROMOTES TH2 IMMUNE RESPONSES

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Poster

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In vitro experiments show that the duodenal mucosa-associated microbiota from functional dyspepsia patients digest gluten differently than microbiota from controls, promoting distinct epithelial barrier changes and T-helper cell responses.

KEY POINTS

- Gluten digested by the duodenal microbiota from 10 FD patients significantly increased Zonula occludens-1 ($p=0.007$) and reduced Myd88 ($p=0.03$) in Caco2 epithelial cells compared to gluten digested by microbiota from 7 controls, though transepithelial electrical resistance was unchanged.
- FD microbiota-digested gluten promoted an increase in Th2 cells in PBMCs from both FD patients ($p=0.007$) and controls ($p=0.0001$), while control microbiota-digested gluten elevated Th17.1 cells in both groups.
- Host enzyme-digested gluten (α -chymotrypsin) did not alter lymphocyte populations in PBMCs from either FD patients or controls compared to unstimulated cells.
- The authors conclude these findings suggest microbiome-gluten interactions may play a role in FD pathophysiology and indicate potential for dietary or microbial therapeutic approaches.

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