

The Colonic Crypt Protects Stem Cells from Microbiota-Derived Metabolites

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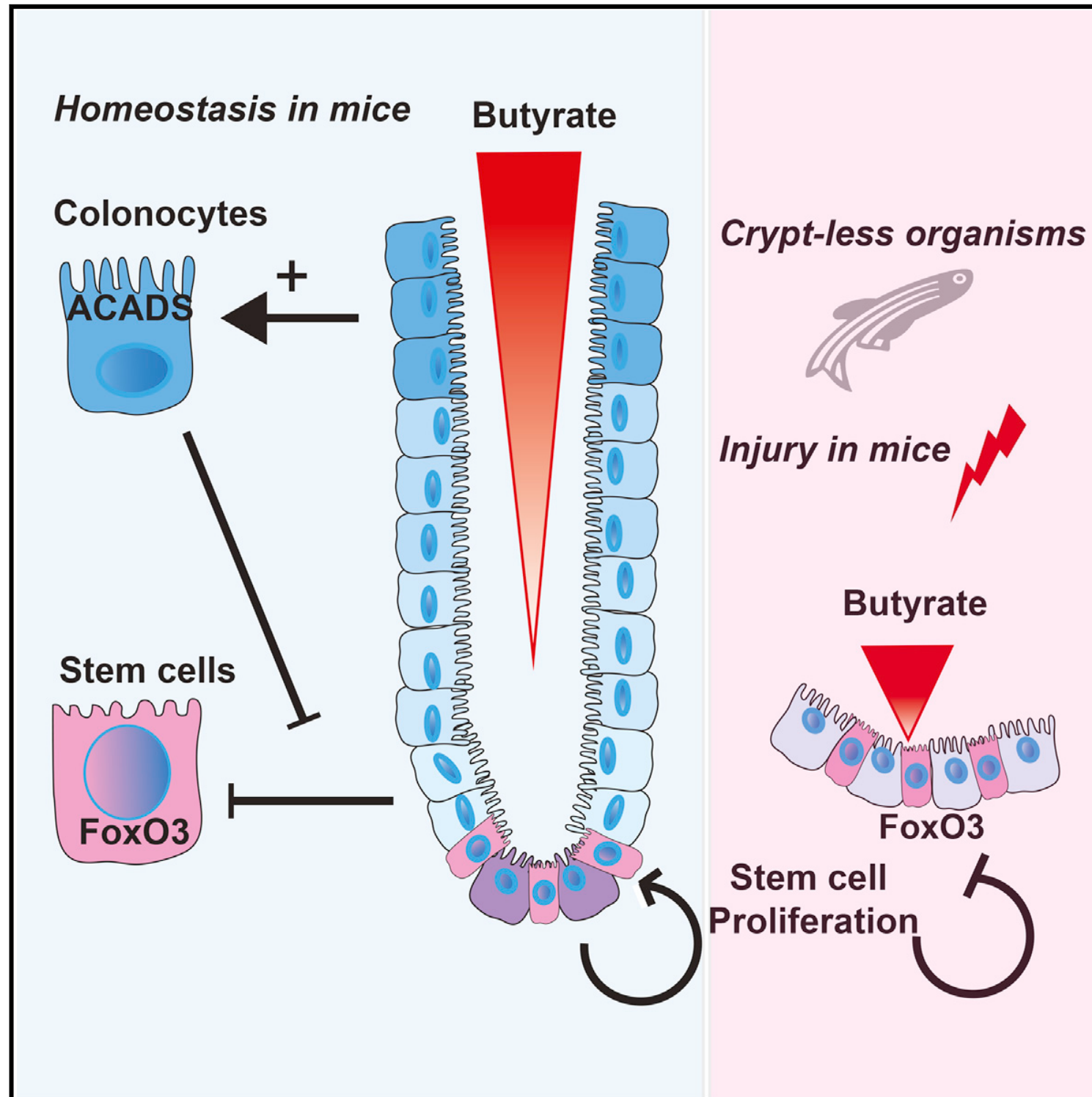
Background

- Stem and progenitor cells located in the crypts of Lieberkühn give rise to all differentiated cell types of the intestinal epithelial layer.
- The impact of the microbiota and its metabolites is poorly understood.

Findings

- Butyrate suppresses epithelial proliferation.
- Colonocytes protect stem and progenitor cells from the butyrate by metabolizing it.
- Butyrate suppresses stem cell proliferation via a Foxo3-dependent mechanism.

Graphical abstract



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Gut Microbiota Drive Autoimmune Arthritis by Promoting Differentiation and Migration of Peyer's Patch T Follicular Helper Cells

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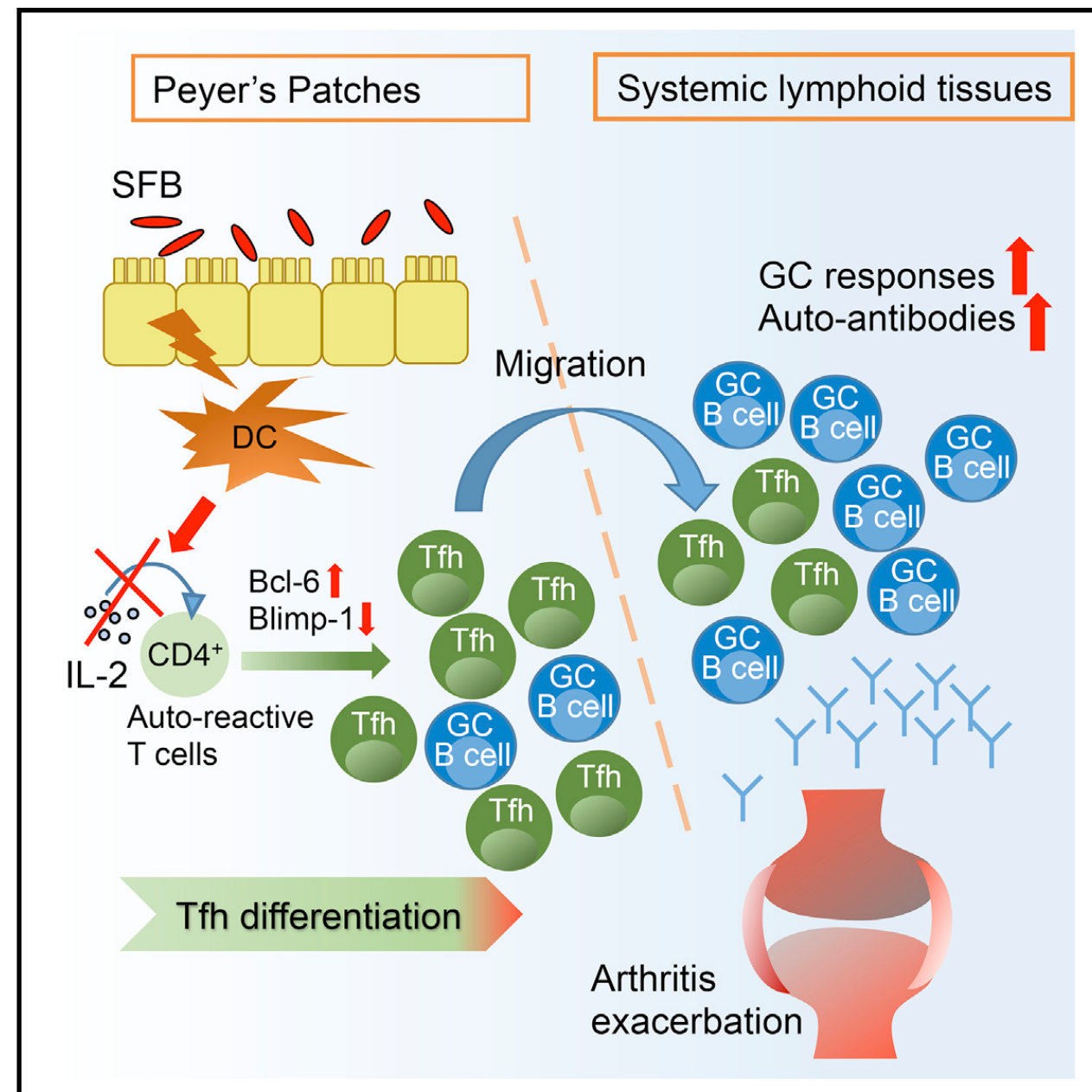
Background

- SFB drives autoimmune arthritis in the K/BxN mouse model by the induction of Th17 cells.
- T follicular helper cells can play a role in the development of rheumatoid arthritis.
- Impairment of the TFH can alter the microbiota.

Findings

- SFB drives K/BxN arthritis in SPF conditions with increased TFH and GC B cells in the spleen, lymph nodes and PP.
- TFH differentiation is induced in the PP; the generated cells migrate to systemic sites.
- PP and DCs are essential for the SFB-induced arthritis.
- SFB enhances TFH differentiation by inhibiting IL-2 signaling.

Graphical abstract



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