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## **Modulation of intestinal barrier by intestinal microbiota: pathological and therapeutic implications.**

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### **Abstract**

Mammals and their intestinal microbiota peacefully coexist in a mutualistic relationship. Commensal bacteria play an active role in shaping and modulating physiological processes in the host, which include, but are not restricted to, the immune system and the intestinal barrier. Both play a crucial role in containing intestinal bacteria and other potentially noxious luminal antigens within the lumen and mucosal compartment. Although mutualism defines the relationship between the host and the intestinal microbiota, disruptions in this equilibrium may promote disease. Thus, alterations in gut microbiota (dysbiosis) have been linked to the recent increased expression of obesity, allergy, autoimmunity, functional and inflammatory disorders such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). In this article, we review the evidence supporting a role of gut microbiota in regulating intestinal barrier function. We discuss the hypothesis that microbial factors can modulate the barrier in ways that can prevent or promote gastrointestinal disease. A better understanding of the role of the intestinal microbiota in maintaining a functional intestinal barrier may help develop targeted strategies to prevent and treat disease.

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