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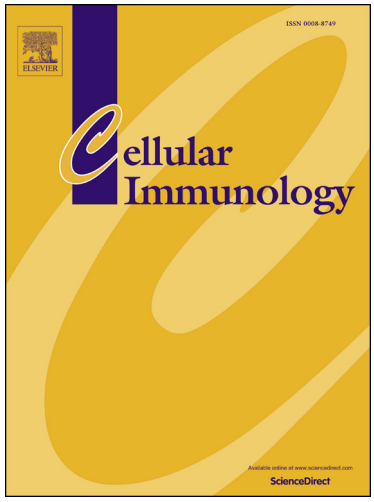

Research paper

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ACCEPTED MANUSCRIPT

Tissue macrophages as mediators of a healthy relationship with gut commensal microbiota

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Abstract

Mammals and microorganisms have evolved a complex and tightly controlled mutual relationship. This interaction grants protection and energy source for the microorganisms, and on the other hand, provides several immunologic, metabolic and physiological advantages for the host. The gastrointestinal tract (GI) harbors the largest bacteria diversity within the body and complex mechanisms control microbiota community under homeostasis. However, once disrupted, microbiota imbalance can lead to overt growth of resident and invasive populations, with potential risk for lethal diseases. In these cases, bacteria might also escape from the intestines and reach different organs through the blood and lymphatic circulation. To control these unwanted conditions, all body tissues are populated with resident macrophages that have the ability to capture and eliminate pathogens, avoiding their dissemination. Here we discuss the different routes for bacterial translocation from the intestinal tract, and how macrophages act in the removal of these microorganisms to prevent systemic infections and restore the homeostasis.

Keywords: phagocytes; microbiota; macrophages; immunology; resident cells; bacterial translocation; bacterial products.

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