Abstract:
The intestinal mucosa is a highly compartmentalized structure that forms a direct barrier between the host intestine and the environment, and its dysfunction could result in a serious disease. As T cells, which are important components of the mucosal immune system, interact with gut microbiota and maintain intestinal homeostasis, they may be involved in the process of intestinal barrier dysfunction. P2X7 receptor (P2X7R), a member of the P2X receptors family, mediates the effects of extracellular adenosine triphosphate (eATP) and is expressed by most innate or adaptive immune cells, including T cells. Current evidence has demonstrated that P2X7R is involved in inflammation and mediates the survival and differentiation of T lymphocytes, indicating its potential role in the regulation of T cell function. In this review, we summarize the available research about the regulatory role and mechanism of P2X7R on the intestinal mucosa-derived T cells in the setting of intestinal barrier dysfunction.