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Roles of intestine-specific homeoprotein CDX2 in the intestinal epithelial barrier

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Abstract

The intestinal epithelial cells serve as a barrier against bacterial pathogens. Autophagy in the intestinal epithelial cells plays key roles in the intestinal mucosal immunity, while suppression of autophagy in the cells accelerates the chronic intestinal inflammation. Recently, I found that intestine-specific homeoprotein CDX2 stimulated autophagy probably through interaction with ATG7, an E1-like enzyme essential for autophagosome formation. To investigate regulation mechanisms of ATG7 by CDX2, we have analyzed proteins associated with the CDX2-bound ATG7 complexes. We have also investigated roles of CDX2 in the intestinal mucosal immunity. The final goal of this study is to identify therapeutic targets to treat the chronic intestinal inflammation.