

Abstract

Autophagy is an essential, homeostatic process – survival mechanism that protects cells by various ways: cells break down their own components to recycle nutrients, remodel and dispose unwanted cytoplasmic constituents. Autophagy is involved in the degradation of long-lived proteins and entire organelles, but paradoxically, considering important prosurvival functions, autophagy may be deleterious. It plays an important role during development, tumor suppression, immunity and is required for the adaptation to environmental stresses such as starvation. Recent studies indicate, that autophagy is a central player in the immunological control of bacterial, parasitic and viral infections. The process of autophagy may degrade intracellular pathogens. This work describes the mechanism of autophagy and highlights the role of autophagy in innate and adaptive immunity, summarizes some advances in understanding the functions of autophagy and its possible roles in the causation and prevention of human diseases.