香港浸會大學
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School of 中醫藥學院
Chinese Medicine

Autophagy Regulation by Oxidative Stress, Ca2+ and Small Chemicals

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Date	:	27 Aug 2015 (Thursday)
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Facilitator	:	Prof. Bian Zhao Xiang

Abstract

Autophagy is an evolutionarily conserved catabolic degradation cellular process and is essential to maintain cellular homeostasis. A wide variety of stresses, e.g. nutrient starvation and oxidative stress, can markedly induce autophagy for cell survival. Autophagy is a double-edged sword for many cellular processes, depending upon the genetic background and microenvironment. Dysfunctional autophagy has been associated with a wide range of human diseases, including cancers, neurodegenerative diseases, and infections. Therefore, dissecting the molecular mechanisms in regulating autophagy and identifying specific autophagy inhibitors or inducers suitable for clinical application are necessary for specifically targeting autophagy to fight human disease. We have been studying the autophagy regulation involving reactive oxygen species (ROS) and Ca^{2+} signaling and screening small chemicals which can modulate autophagy. Here I will present a couple of stories on how oxidative stress and Ca^{2+} signaling regulate autophagy under pathological conditions and how two small chemicals inhibit autophagy to suppress tumor or infection.

*** All are welcome ***