

Ubiquitin in signaling : a tale of atypical linear ubiquitin chains

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医学教育図書棟3階 第2講義室



Abstract

It has been widely accepted that ubiquitin conjugation destines proteins to degradation in most cases. However, recently it has been shown that the ubiquitin system regulates protein functions in many ways besides proteolysis. Ubiquitin is conjugated to protein as ubiquitin chains in most cases and it has been shown that many types of ubiquitin chains in cells. We have discovered brand new type of chains, linear (M1-linked) ubiquitin chains, and proved that the linear ubiquitin chain plays crucial roles in inflammatory signaling by inducing NF- κ B activation and suppressing regulated cell death without functioning proteolysis. We also discovered the LUBAC ubiquitin ligase complex, which is composed of three subunits: catalytic HOIP and accessory HOIL-1L and SHARPIN. In this seminar, I'll discuss discovery of the linear chains and LUBAC, and patho-physiological functions of LUBAC-mediated linear ubiquitination. I also intend to discuss on the future direction of LUBAC research.

◆ Inviter: Professor. MOROISHI Toshiro (Dep. Molecular and Medical Pharmacology) / 諸石 寿朗 教授 (分子薬理学)

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