

FBS Seminar

Date: 16:00-17:00 on Wednesday, November 2

Place: 2F Seminar Room, Biosystems Building

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Molecular regulation of receptor-mediated mitophagy in mammalian systems and its functional implications

Abstract

Mitochondria control both the life and death of a cell. To ensure the well-being of the cell, mitochondrial quality and quantity is tightly monitored through a mechanism called mitophagy, which selectively removes damaged or unwanted mitochondria. In this seminar, the molecular mechanisms and (patho)physiological functions of FUNDC1-mediated mitophagy in mammalian cells will be presented and discussed.

Recent key publications

Kuang Y, Ma K, Zhou C, Ding P, Zhu Y, Chen Q, Xia B. (2016). Structural basis for the phosphorylation of FUNDC1 LIR as a molecular switch of mitophagy. **Autophagy**, in press.

Chen M, Chen Z, Wang Y, Tan Z, Zhu C, Li Y, Han Z, Chen L, Gao R, Liu L, Chen Q. (2016). Mitophagy receptor FUNDC1 regulates mitochondrial dynamics and mitophagy. **Autophagy**, 12: 689-702.

Wu H, Xue D, Chen G, Han Z, Huang L, Zhu C, Wang X, Jin H, Wang J, Zhu Y, Liu L, Chen Q. (2014). The BCL2L1 and PGAM5 axis defines hypoxia-induced receptor-mediated mitophagy. **Autophagy**, 10: 1712-1725.

Chen G, Han Z, Feng D, Chen Y, Chen L, Wu H, Huang L, Zhou C, Cai X, Fu C, Duan L, Wang X, Liu L, Liu X, Shen Y, Zhu Y, Chen Q. (2014). A regulatory signaling loop comprising the PGAM5 phosphatase and CK2 controls receptor-mediated mitophagy. **Mol. Cell**, 54: 362-377.

Liu L, Feng D, Chen G, Chen M, Zheng Q, Song P, Ma Q, Zhu C, Wang R, Qi W, Huang L, Xue P, Li B, Wang X, Jin H, Wang J, Yang F, Liu P, Zhu Y, Sui S, Chen Q. (2012). Mitochondrial outer-membrane protein FUNDC1 mediates hypoxia-induced mitophagy in mammalian cells. **Nat. Cell Biol.**, 14: 177-185.

Host: **Koji Okamoto**, Laboratory of Mitochondrial Dynamics, Graduate School of Frontier Biosciences

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Note: This seminar will be presented in English.