



Li Yu
School of Life Sciences, Tsinghua University
China
liyulab@mail.tsinghua.edu.cn

俞立：男，博士，清华大学生命科学学院教授，博士生导师。2000 年于北京大学取得博士学位，之后赴美国国立卫生研究院从事博士后研究工作，2008 年被聘为清华大学生命科学学院教授。自成立实验室以来，一直从事细胞自噬领域的研究。2010 年首次在哺乳动物细胞中发现的自噬性溶酶体再生过程及其调控机制。之后，俞立实验室对自噬性溶酶体再生分子机制进行深入，系统的研究。同时，俞立实验室还阐释了自噬体独特的双层膜结构形成的分子机制及自噬的调控机制。最近，俞立实验室发现了依赖细胞迁移的新细胞现象 migracytosis 和介导这一过程的新细胞器迁移体，目前对其分子机制进行深入的研究。俞立于 2011 年获得国家杰出青年基金，2012 年研究成果入选 2012 年中国科学十大进展，2013 年获得谈家桢生命科学创新奖，2015 年入选长江学者特聘教授。

主要研究领域 (Research Interests):

综合细胞生物学，遗传学，生物化学，分子生物学等研究方法，以从酵母到小鼠等不同模式生物为模型研究 1) 俞立实验室发现的新细胞器迁移体 (Migrasome)的机制与功能。2) 自吞噬在细胞及分子水平上的调控机制。

Li Yu's research focuses on autophagy. His lab try to understand the autophagy in the broader context of cellular membrane trafficking system and the regulation of autophagy in the framework of metabolism regulation network. Furthermore, they are interested in studying the general principles that determine membrane curvature, shaping and remodeling by using autophagy as a working model. More specific, Li Yu's lab focuses on two directions at this moment: 1) Migrasome, a new organelle discovered in Li Yu lab. 2) Autophagy.

近期代表论文

1. Na Mi*, Yang Chen, Shuai Wang, Mengran Chen, Mingkun Zhao, Guang Yang, Meisheng Ma, Qian Su, Sai Luo, Jingwen Shi, Jia Xu, Qiang Guo, Ning Gao, Yujie Sun, Zhucheng Chen* & Li Yu*. CapZ regulates autophagosomal membrane shaping by promoting actin assembly inside the isolation membrane. *Nature Cell Biology*. in press
2. Chong Wang, Wanqing Du, Qian Peter Su, Mingli Zhu, Peiyuan Feng, Ying Li, Yichen Zhou, Na Mi, Yueyao Zhu, Dong Jiang, Senyan Zhang, Zerui Zhang, Yujie Sun* & Li Yu* Dynamic tubulation of mitochondria drives mitochondrial network formation. *Cell Research*. in press. (Cover story)
3. Ma L, Li Y, Peng J, Wu D, Zhao X, Cui Y, Chen L, Yan X, Du Y, Yu L*. Discovery of the migrasome, an organelle mediates release of cytoplasmic contents during cell migration. *Cell Research*. 2015, Jan;25(1):24-38. (Cover Story)
4. Chen R, Zou Y, Mao D, Sun D, Gao G, Shi J, Liu X, Zhu C, Yang M, Ye W, Hao Q, Li R, Yu L*. The general amino acid control pathway regulates mTOR and autophagy during serum/glutamine starvation. *Journal of Cell Biol*. 2014 Jul 21;206(2):173-82.
5. Yueguang Rong, Mei Liu, Liang Ma, Wanqing Du, Hanshuo Zhang, Yuan Tian, Zhen Cao, Ying Li, He Ren, Chuanmao Zhang, Lin Li, She Chen, Jianzhong Xi* & Li Yu* Clathrin and phosphatidylinositol 4,5-bisphosphate regulate autophagic lysosome reformation. *Nature Cell Biology*, Sep;14(9):924-34
6. Cong Yi, Meisheng Ma, Leili Ran, Jingxiang Zheng, Jingjing Tong, Jing Zhu, Chengying Ma, Yufen Sun, Shaojin Zhang, Wenzhi Feng, Liyuan Zhu, Yan Le, Xingqi Gong, Xianghua Yan, Bing Hong, Fen-Jun Jiang, Zhiping Xie, Di Miao, Haiteng Deng & Li Yu* Function and molecular mechanism of acetylation in autophagy regulation. 2012 Apr 27, 474-477, *Science*
7. Huang W, Choi W, Hu W, Mi N, Guo Q, Ma M, Liu M, Tian Y, Lu P, Wang FL, Deng H, Liu L, Gao N, Yu L*, Shi Y*. Crystal structure and biochemical analyses reveal Beclin 1 as a novel membrane binding protein. *Cell Res*. 2012 Feb 7
8. Yueguang Rong, Christina K. McPhee, Shuangshen Deng, Lei Huang, Lilian Chen, Mei Liu, Kirsten Tracy, Eric H. Baehrecke, Li Yu* and Michael J. Lenardo, Spinster is required for autophagic lysosome reformation and mTOR reactivation following starvation. *PNAS*, 2011 Apr 25
9. Ye Tian, Zhipeng Li, Wanqiu Hu, Haiyan Ren, E Tian, Yu Zhao, Qun Lu, Xinxin Huang, Peiguo Yang, Xin Li, Xiaochen Wang, Attila L. Kovács, Li Yu*, and Hong Zhang*. *C. elegans* Screen Identifies Autophagy Genes Specific to Multicellular Organisms. *Cell*, 2010 Jun 11;141(6):1042-1055
10. Li Yu, Christina K. McPhee, Lixin Zheng, Gonzalo A. Mardones, Yueguang Rong, Junya Peng, Na Mi, Ying Zhao, Zhihua Liu, Fengyi Wan, Dale W. Hailey, Viola Oorschot, Judith Klumperman, Eric H. Baehrecke, and Michael J. Lenardo*, Termination of autophagy and reformation of lysosomes regulated by mTOR. *Nature*, 2010 Jun 6. [Epub ahead of print] •

11. **Yu L**, Alva A, Su H, Dutt P, Freundt E, Welsh S, Baehrecke EH, Lenardo MJ. Regulation of an ATG7-beclin 1 program of autophagic cell death by caspase-8. **Science**. 2004 Jun 4; 304(5676):1500-2
12. **Yu L**, Fengyi Wan, Sudeshna Dutta, Sarah Weish, Zhihua Liu, Eric Freundt, Erich. Baehrecke, and Michael Lenardo. Autophagic programmed cell death by selective catalase degradation. **PNAS**. March 17,2006.
13. **Yu L**, Mindy C Hebert, Ying Zhang. TGF-beta receptor-activated p 38 MAP kinase mediates Smad-independent TGF-beta response. **EMBO. J** 2002 Jul 15; 21(14): 3749-59
14. **Yu L**, Strandberg L, Lenardo MJ. The selectivity of autophagy and its role in cell death and survival. **Autophagy**. 2008 Jul 1; 4(5):567-73