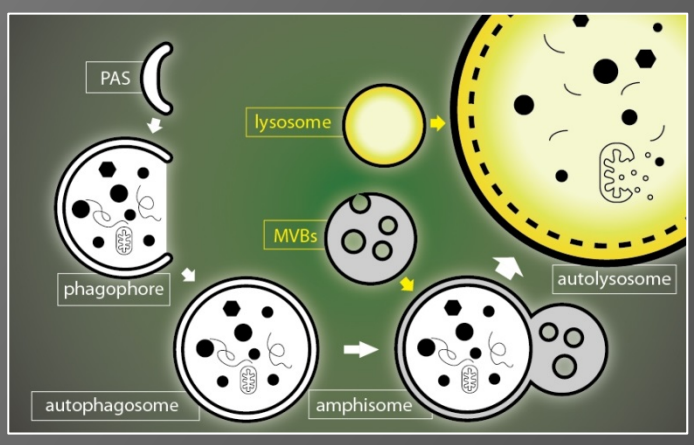
Guang-Chao Chen Lab

中央研究院 ACADEMIA SINICA

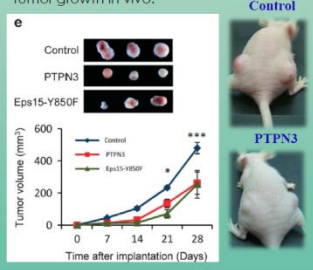
IBC, Academia Sinica



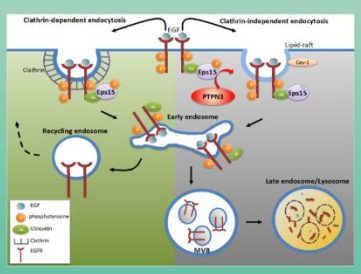
The focus of our lab is to elucidate the molecular mechanism and function of autophagy and protein tyrosine phosphatases (PTPs) in development and human diseases.

Protein tyrosine phosphatase PTPN3 inhibits lung cancer cell proliferation and migration by promoting EGFR endocytic degradation (oncogene 2015)

PTPN3 negatively regulate lung tumor growth in vivo.

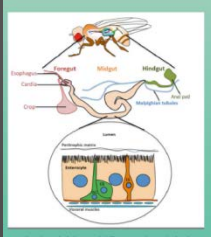


PTPN3 could change EGFR internalization route from Clathrin-dependent to Clathrin-independent pathway and promote EGFR degradation.

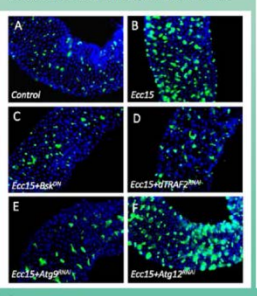


Atg9 Interacts with dTRAF2/TRAF6 to Regulate Oxidative Stress-Induced JNK Activation and Autophagy Induction (Developmental Cell 2013)

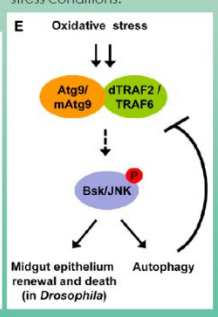
FLY GUT SYSTEM



Atg9 and dTRAF2 Are Required for Intestinal Stem Cell Proliferation in Response to Pathogen infection.



Atg9 has dual role for in the regulation of JNK signaling and autophagy under oxidative stress conditions.



Methods Mol Biol. 2012 (Philip L Houtz and Nicolas Buchon)

Publications-

Selected Journal Articles

Su MY, Peng WH, Ho MR, Su SC, Chang YC, Chen GC, Chang CI, 2015, "Structure of yeast Ape1 and its role in autophagic vesicle formation.", *Autophagy*, 11(9), 1580-1593.

Li MY, Lai PL, Chou YT, Chi AP, Mi YZ, Khoo KH, Chang GD, Wu CW, Meng TC, Chen GC, 2015, "Protein tyrosine phosphatase PTPN3 inhibits lung cancer cell proliferation and migration by promoting EGFR endocytic degradation", *Oncogene*, 34(29), 3791-3803.

Santhanam A, Peng WH, Yu YT, Sang TK, Chen GC, Meng TC., 2014, "Ecdysone-induced receptor tyrosine phosphatase PTP52F regulates Drosophila midgut histolysis by enhancement of autophagy and apoptosis.", *Mol Cell Biol.*, 34(9), 1594-1606.

Tang HW, Liao HM, Peng WH, Lin HR, Chen CH, Chen GC, 2013, "Atg9 Interacts with dTRAF2/TRAF6 to Regulate Oxidative Stress-Induced JNK Activation and Autophagy Induction", *Developmental Cell*, 27(5), 489-503.

Book Chapters

Wang YT and Chen GC, 2016, "The role of ubiquitin system in autophagy", editor(s): Nikolai Gorbunov and Marion Schneider, *Autophagy in Current Trends in Cellular Physiology and Pathology*, pp. 117-136, Croatia: Intech.