

國立清華大學 105 學年第 2 學期新開課程課程大綱

科號	10520LSBS524200	組別		學分	2	人數 限制	Offered in English/須 與老師討論 後加簽選課
修課年級							
上課時間	TaTb			教室	生二 207		
科目中文名稱	植物自噬作用特論一						
科目英文名稱	Special Topics on Plant Autophagy I						
任課教師	劉姿吟						
擋修科目				擋修			

一、課程說明	<ol style="list-style-type: none"> To explore the role of plant autophagy in nutrient remobilization and recycling during senescence and nutrient deficiency To discuss methods for assessing autophagy activity in plant cells
二、教學方式	<ol style="list-style-type: none"> Teacher will select a series of updated research papers related to the field of plant autophagy Two-way interaction in this class; students have to read the text before class and actively participate in discussions in the class. Deliver midterm and final oral presentations
三、教學進度	<ol style="list-style-type: none"> Methods for analysis of autophagy in plants. <i>Methods</i>. 2015 Mar;75:181-8 Dissection of autophagy in tobacco BY-2 cells under sucrose starvation conditions using the vacuolar H(+)-ATPase inhibitor concanamycin A and the autophagy-related protein Atg8. <i>Plant Signal Behav</i>. 2015;10(11):e1082699. Ultrastructure of autophagy in plant cells: a review. <i>Autophagy</i>. 2013 Dec;9(12):1922-36 New Insight into the Mechanism and Function of Autophagy in Plant Cells. <i>Int Rev Cell Mol Biol</i>. 2015;320:1-40. Autophagy in Plants--What's New on the Menu? <i>Trends Plant Sci</i>. 2016 Feb;21(2):134-44. <p>Midterm Oral Presentation</p> <ol style="list-style-type: none"> Global analysis of the role of autophagy in cellular metabolism and energy homeostasis in Arabidopsis seedlings under carbon starvation. Autophagy contributes to nighttime energy availability for growth in Arabidopsis. <i>Plant Physiol</i>. 2013 Apr;161(4):1682-93 Functions of autophagy in plant carbon and nitrogen metabolism. <i>Front Plant Sci</i>. 2014 Jun 24;5:301. AUTOPHAGY-RELATED11 plays a critical role in general autophagy- and senescence-induced mitophagy in Arabidopsis. <i>Plant</i>

	<p>Cell. 2014 Feb;26(2):788-807 10. The ATG1/ATG13 protein kinase complex is both a regulator and a target of autophagic recycling in Arabidopsis. Plant Cell. 2011 Oct;23(10):3761-79. doi: 10.1105/tpc.111.090993.</p>
	<p>Final Oral Presentation</p>
<p>四、學習評量</p>	<p>In-class discussion: 40% Midterm oral presentation: 30% Final oral presentation: 30%</p>