

## 國立清華大學 110 學年第 1 學期新開課程課程大綱

科號	10110LSBS	組別		學分	2	人數 限制	須與老師討論後加簽選課
修課年級							
上課時間	F7F8		教室	生二 207			
科目中文名稱	植物自噬作用特論二						
科目英文名稱	Special Topics on Plant Autophagy II						
任課教師	劉姿吟						
擋修科目			擋修				

一、課程說明	<ol style="list-style-type: none"> <li>To explore the role of plant autophagy in nutrient remobilization and recycling during senescence and nutrient deficiency</li> <li>To discuss methods for assessing autophagy activity in plant cells</li> </ol>
二、教學方式	<ol style="list-style-type: none"> <li>Teacher will select a series of updated research papers related to the field of plant autophagy</li> <li>Two-way interaction in this class; students have to read the text before class and actively participate in discussions in the class.</li> <li>Deliver final oral presentations</li> </ol>
三、教學進度	<ol style="list-style-type: none"> <li>Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition) PART I</li> <li>Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition) PART II</li> <li>Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition) PART III</li> <li>Genetic Analyses of the Arabidopsis ATG1 Kinase Complex Reveal Both Kinase-Dependent and Independent Autophagic Routes during Fixed-Carbon Starvation. <i>Plant Cell</i>. 2019;31(12):2973-2995.</li> <li>A revised assay for monitoring autophagic flux in <i>Arabidopsis thaliana</i> reveals involvement of AUTOPHAGY-RELATED9 in autophagy. <i>Mol Cells</i>. 2014;37(5):399-405</li> <li>Molecular Mechanisms of Autophagy Regulation in Plants and Their Applications in Agriculture. <i>Front Plant Sci</i>. 2021;11:618944.</li> <li>Ribosome profiling reveals a functional role for autophagy in mRNA translational control. <i>Communications Biology</i> volume 3, Article number: 388 (2020)</li> <li>Autophagy-Independent Functions of the Autophagy Machinery.</li> </ol>

	<p>Cell. 2019;177(7):1682-1699.</p> <p>9. Autophagy Dances with Phytohormones upon Multiple Stresses. Plants (Basel). 2020 Aug 15;9(8):1038.</p> <p>10. Proteomics for Autophagy Receptor and Cargo Identification in Plants. J Proteome Res. 2021;20(1):129-138</p> <p>11. Chemical Screening Pipeline for Identification of Specific Plant Autophagy Modulators. Plant Physiol. 2019;181(3):855-866.</p> <p>12. BZR1 Mediates Brassinosteroid-Induced Autophagy and Nitrogen Starvation in Tomato. Plant Physiol. 2019;179(2):671-685</p> <p>13. Autophagic flux analysis of Arabidopsis seedlings exposed to salt stress. Journal of Plant Biology volume 60, p.199–206(2017)</p> <p>14. Transcriptional and Epigenetic Regulation of Autophagy in Plant. Trends Genet. 2020;36(9):676-688</p>
	<p><b>Final Oral Presentation</b></p>
<p>四、學習評量</p>	<p>In-class discussion: 40%</p> <p>Final oral presentation: 60%</p>