

111-1

The molecular mechanisms of the programmed cell death

細胞程序性死亡的分子機轉

2022/7/14 製作

Course Goals: This course covers the topics of molecular mechanisms that regulate the programmed cell death (PCD). Topics include an overview of apoptosis; the role of mitochondria in apoptosis; the Bcl-2 protein family; the caspases; the death receptors; apoptosis in diseases; necroptosis; pyroptosis; ferroptosis; and other non-apoptotic programmed cell death. The primary goal of this course is to let students gain insights and learn recent findings in the programmed cell death field.

Course Format: This course will incorporate lecture, discussion, and student report

Course Materials: Review articles and recent published research articles on PCD-related field

Class format: The class will include lectures and paper discussions in some of the topics (will be announced in the first class). Each student is required to present a report assigned by the instructor.

Grading: (1) Student's performance will be evaluated throughout the course by attendance (10%), participation (10%), presentation in the class (40%), and a final report (40%). (2) Turn in the final report no later than 5 pm on January 14, 2023.

(3) The final report should be typed in A4 paper with 8-page limit, not including references page. Please find a topic related to the topics lectured in the course and prepare a report following the guidelines as follows. : (a). Abstract, a half page (b). Background and significance, 2 pages (c). Unsolved issues to be addressed, a half page (d). Goals (aims) to be pursued, less than a half page (e). Experimental rationale, strategy, and methods, 3 pages (f). Expected results, 2 pages (g). References

Class Time: Friday 10:10 am~12:00 pm

Classroom: 303D

Coordinator(s): Dr. Chi-Wu Chiang (蔣輯武), ext. 3637, 3591

Teaching assistant(助教): 顏泓淳 ext. 3591

Date	Topic	Lecturer
9/16	Introduction to the programmed cell and apoptosis	蔣輯武
9/23	The programmed cell death in <i>C. elegans</i>	陳昌熙
9/30	Apoptosis in development of <i>Drosophila</i>	姜學誠
10/7	The programmed cell death and apoptosis in murine development	蔣輯武
10/14	The prosurvival Bcl-2 protein family	蔣輯武
10/21	The pro-apoptotic Bcl-2 protein family	蔣輯武
10/28	Mitochondria and apoptosis	馬珍德
11/4	Caspases: the central executioners of apoptosis	蔣輯武
11/11	NCKU Birthday (No class)	
11/18	PBL on apoptosis	蔣輯武
11/25	The extrinsic pathway of apoptosis	蔣輯武
12/2	Apoptosis in the nervous system	莊季瑛
12/9	Application of apoptosis in therapeutics	吳梨華
12/16	Non-apoptosis PCD I: Entosis, Lysosomal death, Necroptosis	蔣輯武
12/23	Non-apoptosis PCD II: Pyroptosis, Ferroptosis	蔣輯武
12/30	Autophagy and apoptosis	張志鵬
1/6/2023	PBL on the programmed cell death	蔣輯武