Zuniga-BIMM194

Title: Anti-Viral Immunity

Instructor: Elina Zuniga

Location: YORK 3010

Date/Time: Fridays from 2-3:30 PM

COURSE WEBSITE

http://classes.biology.ucsd.edu/bimm194.SP13

username: bimm194sp13
passcode: immunity

Course Summary:

Viral infections represent a major health problem. Despite tremendous scientific and medical efforts million of people are afflicted by old and emerging viruses worldwide. In the present course we will learn how the immune system respond to the most relevant viruses as well as the strategies utilized by viruses to evade or subvert host responses. The goal of the course is not only to provide a big picture of immune responses during viral infections but also to learn how to interpret and present primary literature in this fast-moving field.

Prerequisites: BIMM100 (Molecular Biology), and their prerequisites. BICD 140 (immunology) recommended.

Lectures: I will present the first lecture reviewing general principles of immune responses. The rest of the classes will consist on presentation and discussion of one paper related to viral immunity. Selected papers will be available to download from website at least 2 weeks in advance and must be read before class. A group of ~2-4 students will be assigned for each paper. The presenters will identify the major question/s addressed by the paper, describe each figure and the corresponding conclusion and come up with a simple take-home message for the paper. EACH presenter must be able to clearly explain ANY part of the assigned paper.

Office hours: I will stay after class as needed to answer any question you may have.

I suggest the following template for the presentation

1) Brief introduction and general question
2) Specific question 1, Figure 1, Conclusion from Figure 1
3) Specific question 2, Figure 2, Conclusion from Figure 2
4) Same as 2 and 3 with subsequent figures
5) Review of conclusions from each figure
6) TAKE-HOME MESSAGE

Quizzes: There will be nine quizzes, one every week (except the first week) at the end of each paper presentation. They will consist of 1-2 multiple choice or short answer questions in relation to the paper presented. Questions will be related to conclusions or concepts emphasized during the paper presentation. Each quiz will count for 5 % of your grade.

Participation: Questions, comments, suggestions are encouraged at any time during the lecture

Grading: grading will reflect presentation of the assigned paper (45%), quizzes (45%), participation (10%). The grading will be normalized to the highest score. 60-70% of that score will be a D, 70-80% will be a C, 80-90% will be a B and 90-100% of that an A.

EMAIL COMMUNICATION: eizuniga@ucsd.edu is the appropriate email for all correspondence. Please remember to include your first and last name in the body of the email and WRITE BIMM194 IN E-MAIL SUBJECT (your e-mail will be directed to my junk box if you do not write that). Questions that can be asked before or after lecture. I will not answer emails with questions that could be asked before or after lecture.

Timeline, Papers & presenters

Date	***Paper #***	***Paper title, authors & citation (click on PDF to download)***	***Presenters***
4/5/13	N/A	**Introductory Lecture: Overview of anti-viral immunity**	Elina Zuniga
4/12/13	#1	**The ubiquitin ligase Riplet is essential for RIG-I-dependent innate immune responses to RNA virus infection.** Oshiumi H et al. Cell Host Microbe. 2010 Dec 16;8(6):496-509.	Elina Zuniga
4/19/13	#2	**Plasmacytoid dendritic cells sense hepatitis C virus-infected cells, produce interferon, and inhibit infection.** Takahashi K et al. Proc Natl Acad Sci U S A. 2010 Mar 15.	
4/26/13	#3	**Endothelial cells are central orchestrators of cytokine amplification during influenza virus infection.** Tejairo et al. Cell. 2011 Sep 16;146(6):980-91.	
5/03/13	#4	**In vivo requirement for Atg5 in antigen presentation by dendritic cells.** Lee et al. Immunity. 2010 Feb 26;32(2):227-39.	
5/10/13	#5	**Coxsackievirus B3 inhibits antigen presentation in vivo, exerting a profound and selective effect on the MHC class I pathway.** Kemball et al. PLoS Pathog. 2009 Oct;5(10)	
5/17/13	#6	**IL-10 restricts memory T cell inflation during cytomegalovirus infection.** Jones et al. J Immunol. 2010 Sep 15;185(6):3583-92.	
5/24/13	#7	**Early infection with respiratory syncytial virus impairs regulatory T cell function and increases susceptibility to allergic asthma.** Krishnamoorthy et al. Nature Medicine. 2012 Oct;18(10):1525-30.	
5/31/13	#8	**Late interleukin-6 escalates T follicular helper cell responses and controls a chronic viral infection.** Harker et al. Science. 2011 Nov 11;334(6057):825-9.	
6/7/13	#9	**Enhancing SIV-specific immunity in vivo by PD-1 blockade** Velu et al. Nature. 2009 Mar 12;458(7235):206-10.	