

MOLECULAR ENDOCRINOLOGY

ANSC/VTPP 654 (REVISED 1/29/07)

SPRING 2007

T, R: 8:00 am to 9:30 am

Kleberg 200

Instructor and Coordinator:

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The objectives of this course are to review general endocrinology briefly and then introduce the field of molecular endocrinology. Graduate students will understand basic concepts of hormone receptor action, signal transduction and gene regulation as well as critically read and discuss the current literature in the field. *Students are required to read all of the assigned reading before class and discuss them during class.* Required reading in Molecular Endocrinology (3rd ed.) 2004 by Franklin F. Bolander. (ISBN 0-12-111232-2) as well as other assigned readings from the literature (TBA).

Week/dates

Instructor

1	1/18	Introduction – Define hormone & hormone receptor (Ch. 1)	Ing
2	1/23& 25	Hypothalamus(Ch. 2), Pituitary and Adrenal Gland	Johnson
3	1/30 & 2/1	Adrenal, Parathyroid, and Thyroid Glands	Johnson
4	2/6 2/8	Thyroid Glands and Gonads Receptors – Definition and Kinetics of binding (Ch. 4 and 5)	Johnson Ing
5	2/13&15	Nuclear Receptors (Ch. 6)	Ing

6	2/20&22	Hormone Receptors as Transcription Factors (Chs. 13 & 14)	Ing
7	2/27 & 3/1	Post-transcriptional Gene Regulation (Ch. 15)	Ing
8	3/6 3/8	Receptor Regulation (Ch. 8) MIDTERM exam!	Ing
{3/13&15 SPRING BREAK}			
9	3/20&22	Membrane Receptors (Ch. 7)/ Cytokine Receptors	Ing
10	3/27&29	Enzyme-linked Receptors and their actions	Riggs
11	4/3&5	G Protein-Coupled Receptors and their actions (Ch. 9)	Amstalden
12	4/10&12	Calcium, Calmodulin and Phospholipids (Ch. 10 & 11)	Brandt
13	4/17 4/19	Crosstalk (Ch. 12) Hormone action in vivo - Student Presentations: Jennifer N and Jennifer G.	Brandt Ing+
14	4/24 4/26	Hormone action in vivo - Student Presentations: Annet and Radhakrishna Isabel and Thomas	Ing+ Ing+
15		FINAL Examination!!!	

Grades will be based 25% on student presentations, 25% on participation, 25% on midterm exam and 25% on the final exam.

STUDENT PRESENTATIONS will be 35 minutes long with at least 5 minutes discussion afterwards. Students will choose a current (within the last 3 years) review paper and current journal research article (within the last year) in a high quality journal (high journal impact factor) that address a physiological process regulated by diverse hormones. During week 9 the student will present these to Dr. Ing for approval. Then a powerpoint presentation will be developed to present the current knowledge of the hormonal mechanisms regulating the physiological process (based on the review and other sources, if needed) and present the research article material and how it helps further define those mechanisms. Mechanistic models should be used to develop the presentation and explain how the hormones interact to regulate the process in vivo.

Americans with Disabilities Act (ADA) Policy Statement

The following ADA Policy Statement (part of the Policy on Individual Disabling Conditions) was submitted to the University Curriculum Committee by the Department of Student Life. The policy statement was forwarded to the Faculty Senate for information.

The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B118 of Cain Hall or call 845-1637.

Academic Integrity Statement

All syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web.

Aggie Honor Code

“An Aggie does not lie, cheat, or steal or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information please visit: www.tamu.edu/aggiehonor/

On all course work, assignments, and examinations at Texas A&M University, the following Honor Pledge shall be preprinted and signed by the student:

“On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.”