Campbell Reproductive Biology Site

Endocrinology Lecture Illustrations

This page contains the illustrations and Power Point presentations that were or are going to be used in Dr. Campbell's Endocrinology Lecture Course or in Endocrinology Shortcourses given elsewhere. These illustrations, etc. may still be useful to others as they apply to many subjects used in biology. Note, the Power Point presentations are large files, they require a long time to load!

Return to Site Directory or Endocrinology Lecture.

Individual links to illustrations are available in the next section. The following links provide access to the entire list of illustrations and their links in the form of .doc or .pdf files.

All illustrations as one .pdf (Caution! ~16 MB file -- large!)

Illustrations in groups as .doc documents: 1 2 3 4 5 6

Illustrations in groups as .pdf documents: 1 2 3 4

---

1. What is Endocrinology
2. Endocrine Functions
3. Components of Communication Systems
4. Endocrine Analogs of Communication Components
5. Known Hormonal Classes
6. Definition of a Hormone
7. Signal System Types
8. Hormonal Sources
9. Hormonal Sources II
10. Brain Anatomy
11. Limbic System Association
12. Hypothalamic Nuclei Function
13. Hypothalamic Anatomy & Function
14. Hypothalamus & Posterior Pituitary Associations
15. Neurophypophysis Circulation
16. Adenohypophysis Circulation
17. Pituitary & Hypothalamic Anatomy
18. Gross Pituitary Histology
19. Gross Anatomy of the Adrenal

20. Microanatomy of the Adrenal Cortex
21. Information Content and Signal Fluctuation
22. Signal Pulsatility
23. Controls on Bioavailable Hormone Levels
24. Hierarchical Systems of Control
25. Postive and Negative Control Loops
26. Receptor Types
27. Properties of Receptors
28. Receptor Notes
29. Transduction System Properties
30. Transduction Notes
31. Notes on Transduction Systems
32. Hormone and Receptor Evolution
33. Hormone-Receptor Promiscuity
34. Insulin Family Structures
35. Insulin Molecular Structure
36. Evolution of Insulin Family Hormones and Receptors
37. Relative Affinities in the Insulin H-R Group
38. Assessment of Endocrine Function
39. Serpentine Receptors
40. Cytokine/Growth Factor Receptors
41. Acetyl Choline Receptor
42. Intracellular Receptors
43. Nuclear Receptor Response Elements
44. Binding of Nuclear Receptors to DNA
45. Bioassay Dose-Response
46. Biphasic Dose Response of GH
47. Bioassay Notes
48. Chemical Assay Notes
49. Assay Parameters
50. Antibody Binding to Epitopes from Davidson College, MA Campbell
51. Antibody Assay Notes
52. Competititve Immunoassay Characteristics
53. Competitive Immunoassay Error Distributions
54. Competititve Immunoassay Estimation Errors
55. Immunoassay Precision Profile
56. Competitive Immunoassay Precision Profile
57. Competitive Immunoassay, Parallelism
58. Noncompetitive Immunoassay Characteristics
59. Cell and Receptor Sizes
60. Adjusting Cellular Response Sensitivity
61. Receptor Binding and Numbers of Receptors
62. Impact of Losing Receptors on Biological Response
63. Hypothalamic Sources of Releasing Hormones
64. Adenohypophysial Hormones and Regulators
65. Protein Hormone Production

66. Images for Review of Cell Physiology and Biochemistry
67. Endoplasmic Reticulum Role in Protein Synthesis
68. Golgi Actions in Protein Synthesis
69. LH, FSH, TSH, hCG Introduction
70. More on Glycoprotein Hormone Comparisons
71. Yet More on Glycoproteins
72. LH Bioassay Setup
73. Proopiomelanocortin Metabolism
74. TSH Control
75. ACTH Control
76. Adrenal Function
77. Adrenal Function & Regulation
78. MSH Control
79. FSH Control
80. LH Control
81. GH Control
82. PRL Control
83. GH and PRL Gene Properties
84. Pituitary Testituclar Axis
85. Spelling Is Important!
86. Transducer Pathway Maps, Illustrations, Particulars from SigmaAldrich Chemical Co.
87. Large G Proteins and Protein Kinase A Cascade
88. A cAMP Cartoon
89. Guanylyl Cyclase Activation
90. Large G Proteins and Protein Kinase C Cascade
91. Glyceride Chemistry
92. Phosphoinositide Metabolism
93. Small G Proteins and Tyrosine Kinase Cascades
94. Growth Factor/ Tyrosine Kinase Pathway (Examples)
95. Transduction Mechanism Networks
96. Insulin and Related Receptor Mechanisms
97. Oncogenesis Notes
98. Cell Cycle & Cancer, PowerPoint slides
99. Cell Cycle Control Points
100. Restriction Point Switch
101. Cancer Genes
102. DNA Replication
103. DNA Replication Fork
104. Lipoprotein Metabolism
105. Receptor Mediated Endocytosis
106. Steroid Structure
107. Steroid Synthesis
108. Steroid Hormones of the Reproductive System
109. C21 Metabolic Pathways
110. C19 & C18 Metabolic Pathways
111. Cellular Steroidogenesis

112. STAR Protein
113. Enterohepatic Circulation
114. Introduction for Reproduction
115. Images from Veterinary Reproductive Endocrinology
116. Cell Division Notes
117. Meiosis
118. Prophase Meiosis I
119. Meiosis I and II beyond Prophase I
120. Gametogenesis Outline
121. Male Reproductive Anatomy
122. Testis Anatomy
123. Seminiferous Tubule Gross Histology
124. Seminiferous Tubule Microanatomy
125. Seminiferous Tubule Closeup
126. Seminiferous Tubule SEM
127. Seminiferous Tubule Architecture
128. ABP Notes
129. Stages of Spermatogenesis
130. Spermatogenesis
131. Sperm Cytology
132. Epididymal Sperm Notes
133. Capacitation and Acrosome Reaction Notes
134. Female Reproductive Anatomy
135. Menstrual Cycle
136. Fertile Phase
137. Oogenesis
138. Ovarian Germ Cell Numbers
139. Female Gamete Development
140. Folliculogenesis
141. Primordial Follicle Histology
142. Primary Follicle Histology
143. Secondary Follicle Histology
144. Graafian Follicle Histology
145. Follicle Dynamics
146. Follicular Estrogen Synthesis: 2 Cell Model
147. Corpus Luteum Histology
148. Proliferative Phase Uterine Histology
149. Secretory Phase Uterine Histology
150. Vaginal Epithelial Histology
151. Gamete and Zygote Transport in the Oviduct
152. Fertilization Site
153. Fertilization
154. Fertilization: An Illustrated Outline
155. Sperm-Egg Fusion
156. Initial Stages of Zygote Division & Development
157. Luteal Lifespan & Luteolysis: Nonfertile Cycle

158. Counter-Current Delivery of Prostaglandins to the Ovary from the Endometrium
159. Maternal Recognition of Pregnancy; Luteal Lifespan: Fertile Cycle
160. Nidation, Early Stages
161. Nidation, Late Stages
162. Normal Profiles of Hormones of Pregnancy
163. Steroidogenesis by the Maternal-Feto-Placental Unit
164. Embryology & Organogenesis in the Primate
165. Sex Determination in Mammals is a Process
166. SRY Is the Sex Determining Gene in Mammals
167. Molecular Biological Cascade Involved in Gonadal Formation
168. Gonadal Differentiation
169. Differentiation of the Internal Reproductive Phenotype
170. Development of the External Reproductive Phenotype
171. Term Placenta Villi Histology
172. Prostaglandin Metabolism & Childbirth Initiation
173. Pregnancy & Childbirth
174. Parturition
175. Descriptive Anatomy of the Breast
176. Hormonal Control of Breast Development
177. Cellular Organization of the Breast Alveolus
178. Progesterone Inhibition of Milk Production in Pregnancy
179. Nonlactating Breast Histology
180. Lactating Breast Histology
181. Initiation of Puberty & LH Changes during Adolescence
182. GONADOSTAT Theory of Pubertal Onset
183. Normal Thyroid & Goiter Anatomy
184. Schematic of Thyroid Cellular Anatomy
185. Biosynthesis of Thyroid Hormones by the Thyroid Follicular Epithelial Cells
186. Chemistry of Thyroid Hormone Biosynthesis
187. Thyroid Hormone Mechanism of Action
188. Schematic of Gross Pancreatic Anatomy
189. Pancreatic Histology
190. Schematic of Pancreatic Islet
191. Islets of Langerhans Histology
192. Hormones from the Pancreatic Islets
193. Notes on Pancreatic Hormones
194. Simplified Schematic of Glucose Homeostasis
195. Hormonal Impacts on Glucose Homeostasis
196. Some Introductory Notes on Diabetes
197. Satiety
198. Satiety 2003
199. Homeostasis of Blood Pressure Control, Water & Sodium Balance
200. The Juxtaglomerular Apparatus & Renin Production
201. Metabolism of Angiotensinogen & Angiotensin
202. The Physiological Problem of Glucocorticoid Binding to Mineralocorticoid Receptors

203. Kallikrein Metabolism
204. Integration of Kinin and Renin Metabolism
205. Effectors of Aldosterone Action
206. Calcium Homeostasis
207. Metabolism of Cholecalciferol
208. Bone Cellular Anatomy, Sagittal View
209. Bone Cellular Anatomy, Cross Section
210. Calcium Movements Associated with Osteoid Cells

Powerpoint Presentations

Note: these are large files that will require a long time to load on a modem. They are best viewed using a high speed, broadband, or ethernet link.

1. **Introduction to Basic, Hypothalamic, and Hypophysial Endocrinology**
2. **Introduction to Basic, Hypothalamic, and Hypophysial Endocrinology, Version 2**
3. **Evolution of Basic Digestive Physiology and Endocrinology**
4. **Diabetes: Basics and Drugs**
5. **Introduction to Endocrinology**
6. **Overview of Male Endocrinology**
7. **Overview of Female Endocrinology**
8. **Biomarkers of Ovulation, Fertilization, & Pregnancy**
9. **Endocrine Disruptors**
10. **Opportunities and Active Research Areas in Endocrinology**
11. **Training in Endocrinology & Other Biomedical Sciences**
12. **Thyroid Physiology**
13. **Steroids & Steroidogenesis**
14. **RBI Sigma Descriptions of Apoptotic Pathways**
15. **Signal Transduction**
16. **Cell Cycle Control & Oncogenesis**
17. **Cell Cycle Control & Oncogenesis - Fall 2007, Campbell & Del Gaizo Moore**
18. **Cancer Biology - Fall 2009, Ludmilla Flores**
19. **Blood Pressure Controls**
20. **Calcium Homeostasis & Bone Metabolism**
