Genes, Molecules and Cells-2

Second year course, running in Semester-2, for all Biomolecular science students.

View Online

1

Interactive Concepts in Biochemistry - Content by Chapter. https://www.wiley.com/legacy/college/boyer/0470003790/chapter/chapter_list.htm#

2

Jeremy M Berg. Biochemistry. 2002.https://www.ncbi.nlm.nih.gov/books/NBK21154/?depth=2

3

Reece JB, Campbell NA. Campbell biology: Jane B. Reece ... [et al.]. 9th ed., Global ed. Boston, Mass: : Pearson Education 2011.

4

Lehninger AL, Nelson DL, Cox MM. Lehninger principles of biochemistry. 6th ed. New York, N.Y.: : W.H. Freeman 2013.

5

Alberts B. Molecular biology of the cell. 5th ed. New York, N.Y.: : Garland Science 2008.

6

Griffiths AJF, Wessler SR, Carroll SB, et al. Introduction to genetic analysis. Eleventh edition. New York, NY: : W.H. Freeman & Company, a Macmillan Education imprint 2015.

7

Falchi M, El-Sayed Moustafa JS, Takousis P, et al. Low copy number of the salivary amylase gene predisposes to obesity. Nature Genetics 2014;**46**:492–7. doi:10.1038/ng.2939

8

Wyckoff GJ, Wang W, Wu C-I. Rapid evolution of male reproductive genes in the descent of man. Nature 2000;**403**:304–9. doi:10.1038/35002070

9

Perry GH, Dominy NJ, Claw KG, et al. Diet and the evolution of human amylase gene copy number variation. Nature Genetics 2007;**39**:1256–60. doi:10.1038/ng2123

10

Regulation of the Lactase Gene | HHMI BioInteractive. http://www.hhmi.org/biointeractive/regulation-lactase-gene

11

Williamson MP. How proteins work. New York, N.Y.: : Garland Science 2012.

12

Proteins - YouTube. https://www.youtube.com/playlist?list=PLbKSbFnKYVY0By5uwg3eAmGeuynvGqCQw

13

PDB-101: Learning Resources: Methods for Determining Structure. https://pdb101.rcsb.org/learn/guide-to-understanding-pdb-data/methods-for-determining-structure

14

Protein Three-Dimensional Structure: Levels of Protein Structure, Proteins Motifs, Domains and Databases. https://proteinstructures.com/structure/protein-domains/

15

Protein Structure | Learn Science at Scitable.
https://www.nature.com/scitable/topicpage/protein-structure-14122136

16

Introduction to Sequence Alignment and Sequence Analysis.
https://proteinstructures.com/sequence/introduction/#:~:text=Introduction%20to%20Protein%20Sequence%20Alignment%20and%20Analysis.%20Amino,meaning%20and%20are%20unable%20to%20extract%20the%20information.

17

Introduction to Protein Homology / Comparative Modeling, Step in Homology Modeling.
https://proteinstructures.com/structure/introduction/

18

PDB-101: cAMP-dependent Protein Kinase (PKA). http://pdb101.rcsb.org/motm/152

19

Experimental Methods in Protein Structure Determination: Protein crystallization and Protein Crystallography.
https://proteinstructures.com/experimental/experimental-methods/

20

PDB-101: Insulin Receptor. http://pdb101.rcsb.org/motm/182

21

Lindquist S. Interview: Protein Folding and Studies of Neurodegenerative Diseases. Journal of Visualized Experiments Published Online First: 16 July 2008. doi:10.3791/786

22

Induced fit model of enzyme catalysis | Chemical Processes | MCAT | Khan Academy - YouTube. https://www.youtube.com/watch?v=8IUB2sAQkzw

23

Enzymes and activation energy | Biomolecules | MCAT | Khan Academy - YouTube. https://www.youtube.com/watch?v=j00Ep0Byu0Y

24

Introduction to enzymes and catalysis | Chemical Processes | MCAT | Khan Academy - YouTube. https://www.youtube.com/watch?v=G7ZAwUdBNFE

25

Enzyme Kinetics. http://www.biology-pages.info/E/EnzymeKinetics.html

26

Enzyme Kinetics - YouTube. https://www.youtube.com/playlist?list=PLbKSbFnKYVY3j6ubaW1zgTXj5C4443v8s

27

Concepts in Biochemistry - Concept Reviews. https://www.wiley.com/legacy/college/boyer/0470003790/reviews/redox/reduction_potentials.htm

28

Kevin B. Jones: Why curiosity is the key to science and medicine : TED.com : Free Download & Streaming : Internet Archive. https://archive.org/details/KevinJones_2015X

29

Clapham DE. Calcium Signaling. Cell 2007;**131**:1047–58. doi:10.1016/j.cell.2007.11.028

30

PDB-101: Insulin Receptor. http://pdb101.rcsb.org/motm/182

31

PDB-101: cAMP-dependent Protein Kinase (PKA). http://pdb101.rcsb.org/motm/152

32

Lemmon MA, Schlessinger J. Cell Signaling by Receptor Tyrosine Kinases. Cell 2010;**141**:1117–34. doi:10.1016/j.cell.2010.06.011

33

GPCR | Learn Science at Scitable. https://www.nature.com/scitable/topicpage/gpcr-14047471

34

The 2017 Nobel Prize in Physiology or Medicine - Press Release. https://www.nobelprize.org/nobel_prizes/medicine/laureates/2017/press.html

35

Circadian Rhythms, Biological Clock, Chronobiology - Crystalinks. http://www.crystalinks.com/biologicalclock.html

36

Second Messengers. http://www.biology-pages.info/S/Second_messengers.html

37

Identification of Cyclin-dependent Kinase 1 Specific Phosphorylation Sites by an In Vitro Kinase Assay | Protocol. https://www.jove.com/video/57674/identification-cyclin-dependent-kinase-1-specific-phosphorylation

38

Karra AS, Stippec S, Cobb MH. Assaying Protein Kinase Activity with Radiolabeled ATP. Journal of Visualized Experiments Published Online First: 26 May 2017. doi:10.3791/55504

39

PombeNet at The Forsburg Lab - University of Southern California. https://dornsife.usc.edu/pombenet/

40

Nurse PM. Cyclin Dependent Kinases and Cell Cycle Control. Bioscience Reports 2002;**22**:487–99. doi:10.1023/A:1022017701871

41

Kevin B. Jones: Why curiosity is the key to science and medicine : TED.com : Free Download & Streaming : Internet Archive. https://archive.org/details/KevinJones_2015X

42

LifeSkills | Developing work and life skills. https://www.barclayslifeskills.com/

43

University of Glasgow - Information for current students - Graduate Attributes. http://www.gla.ac.uk/students/attributes/

44

Boyle J, Ramsay S. Writing for science students. London: : Palgrave 2017.

45

Restriction Enzyme Digests | Protocol.
https://www.jove.com/science-education/5070/restriction-enzyme-digests

46

DNA Gel Electrophoresis | Protocol.
https://www.jove.com/science-education/5057/dna-gel-electrophoresis

47

Bacterial Transformation Using Heat Shock and Competent Cells | Protocol.
https://www.jove.com/science-education/5059/bacterial-transformation-the-heat-shock-method

48

Separating Protein: SDS-Polyacrylamide Gel Electrophoresis (SDS-PAGE) | Protocol.
https://ezproxy.lib.gla.ac.uk/login?url=https://www.jove.com/science-education/5058/separating-protein-with-sds-page

49

PCR: The Polymerase Chain Reaction | Protocol.
https://ezproxy.lib.gla.ac.uk/login?url=https://www.jove.com/science-education/5056/pcr-the-polymerase-chain-reaction

50

PCR. http://learn.genetics.utah.edu/content/labs/pcr/

51

Gel Electrophoresis. http://learn.genetics.utah.edu/content/labs/gel/