

CELL3050: Advanced Molecular Cell Biology

And CELL3050A

View Online



1.

Alberts, Bruce. Molecular biology of the cell. Reference ed., 5th ed. Abingdon: Garland Science; 2008.

2.

Pollard, Thomas D., Earnshaw, William C. Cell biology. 2nd ed. Philadelphia: Saunders/Elsevier; 2008.

3.

Lodish, Harvey F. Molecular cell biology. 6th ed. Basingstoke: Palgrave Macmillan; 2007.

4.

Alberts, Bruce. Essential cell biology. 3rd ed. London: Garland Science; 2010.

5.

iBioSeminars: Free biology videos online.

6.

Giepmans BNG. The Fluorescent Toolbox for Assessing Protein Location and Function. Science. 2006 Apr 14;312(5771):217-224.

7.

North AJ. Seeing is believing? A beginners' guide to practical pitfalls in image acquisition. The Journal of Cell Biology. 2006 Jan 3;172(1):9–18.

8.

Shaner NC, Steinbach PA, Tsien RY. A guide to choosing fluorescent proteins. Nature Methods. 2005 Dec;2(12):905–909.

9.

Molecular Probes®, Labeling & Detection Technologies | Life Technologies.

10.

Nikon MicroscopyU.

11.

Pelkmans L. Using Cell-to-Cell Variability--A New Era in Molecular Biology. Science. 2012 Apr 26;336(6080):425–426.

12.

Larson DR, Zenklusen D, Wu B, Chao JA, Singer RH. Real-Time Observation of Transcription Initiation and Elongation on an Endogenous Yeast Gene. Science. 2011 Apr 21;332(6028):475–478.

13.

Raj A, van Oudenaarden A. Nature, Nurture, or Chance: Stochastic Gene Expression and Its Consequences. Cell. 2008 Oct;135(2):216–226.

14.

Brock A, Chang H, Huang S. Non-genetic heterogeneity — a mutation-independent driving force for the somatic evolution of tumours. Nature Reviews Genetics. 2009

May;10(5):336–342.

15.

Lionnet T, Singer RH. Transcription goes digital. *EMBO reports*. 2012 Mar 13;13(4):313–321.

16.

Spencer SL, Gaudet S, Albeck JG, Burke JM, Sorger PK. Non-genetic origins of cell-to-cell variability in TRAIL-induced apoptosis. *Nature*. 2009 Apr 12;459(7245):428–432.

17.

Morgan, David Owen. *The cell cycle: principles of control*. London: New Science Press in association with Oxford University Press and Sinauer Associates; 2007.

18.

Watson, James D. *Molecular biology of the gene*. 6th ed. Cold Spring Harbor, N.Y.: Pearson/Benjamin Cummings; 2008.

19.

Alberts, Bruce. *Molecular biology of the cell*. Reference ed., 5th ed. Abingdon: Garland Science; 2008.

20.

Murray, Andrew Wood, Hunt, Tim. *The cell cycle: an introduction*. New York: Oxford University Press; 1993.

21.

Evans T, Rosenthal ET, Youngblom J, Distel D, Hunt T. Cyclin: A protein specified by maternal mRNA in sea urchin eggs that is destroyed at each cleavage division. *Cell*. 1983 Jun;33(2):389–396.

22.

Hartwell LH. Twenty-five years of cell cycle genetics. *Genetics*. 1991;129(4):975–980.

23.

Bartek J, Lukas J. DNA damage checkpoints: from initiation to recovery or adaptation. *Current Opinion in Cell Biology*. 2007 Apr;19(2):238–245.

24.

Nasmyth K, Schleiffer A. From a single double helix to paired double helices and back. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2004 Jan 29;359(1441):99–108.

25.

Ted A. Weinert and Leland H. Hartwell. The RAD9 Gene Controls the Cell Cycle Response to DNA Damage in *Saccharomyces cerevisiae*. *Science*. American Association for the Advancement of Science; 1988;241(4863):317–322.

26.

Howell BJ, Hoffman DB, Fang G, Murray AW, Salmon ED. Visualization of Mad2 Dynamics at Kinetochores, along Spindle Fibers, and at Spindle Poles in Living Cells. *The Journal of Cell Biology*. 2000 Sep 18;150(6):1233–1250.

27.

Musacchio A, Salmon ED. The spindle-assembly checkpoint in space and time. *Nature Reviews Molecular Cell Biology*. 2007 Apr 11;8(5):379–393.

28.

Alberts, Bruce. *Molecular biology of the cell*. Reference ed., 5th ed. Abingdon: Garland Science; 2008.

29.

Nature Publishing Group. Encyclopedia of life sciences [Internet]. Basingstoke: Macmillan; 2001. Available from: <http://www.els.net>

30.

Milestones timeline : Nature Milestones in Cytoskeleton.

31.

Julie Theriot.

32.

Windoffer R, Beil M, Magin TM, Leube RE. Cytoskeleton in motion: the dynamics of keratin intermediate filaments in epithelia. *The Journal of Cell Biology*. 2011 Sep 5;194(5):669–678.

33.

Simon DN, Wilson KL. The nucleoskeleton as a genome-associated dynamic 'network of networks'. *Nature Reviews Molecular Cell Biology*. 2011 Oct 5;12(11):695–708.

34.

Ridley AJ. Life at the Leading Edge. *Cell*. 2011 Jun;145(7):1012–1022.

35.

Campellone KG, Welch MD. A nucleator arms race: cellular control of actin assembly. *Nature Reviews Microbiology*. 2010 Mar 18;11(4):237–251.

36.

Pollard TD, Borisy GG. Cellular Motility Driven by Assembly and Disassembly of Actin Filaments. *Cell*. 2003 Feb;112(4):453–465.

37.

Chhabra ES, Higgs HN. The many faces of actin: matching assembly factors with cellular structures. *Nature Cell Biology*. 2007 Oct;9(10):1110–1121.

38.

Insall RH, Machesky LM. Actin Dynamics at the Leading Edge: From Simple Machinery to Complex Networks. *Developmental Cell*. 2009 Sep 15;17(3):310–322.

39.

VANTROYS M, HUYCK L, LEYMAN S, DHAESE S, VANDEKERKHOVE J, AMPE C. Ins and outs of ADF/cofilin activity and regulation. *European Journal of Cell Biology*. 2008 Sep 4;87(8–9):649–667.

40.

Herrmann H, Strelkov SV, Burkhard P, Aebi U. Intermediate filaments: primary determinants of cell architecture and plasticity. *Journal of Clinical Investigation*. 2009 Jul 1;119(7):1772–1783.

41.

Goldman RD, Grin B, Mendez MG, Kuczmarski ER. Intermediate filaments: versatile building blocks of cell structure. *Current Opinion in Cell Biology*. 2008 Feb;20(1):28–34.

42.

Herrmann H, Bär H, Kreplak L, Strelkov SV, Aebi U. Intermediate filaments: from cell architecture to nanomechanics. *Nature Reviews Molecular Cell Biology*. 2007 Jul;8(7):562–573.

43.

Godsel LM, Hobbs RP, Green KJ. Intermediate filament assembly: dynamics to disease. *Trends in Cell Biology*. 2008 Jan;18(1):28–37.

44.

Delorme V, Machacek M, DerMardirossian C, Anderson KL, Wittmann T, Hanein D, Waterman-Storer C, Danuser G, Bokoch GM. Cofilin Activity Downstream of Pak1 Regulates Cell Protrusion Efficiency by Organizing Lamellipodium and Lamella Actin Networks. *Developmental Cell*. 2007 Nov 6;13(5):646–662.

45.

Symons MH. Control of actin polymerization in live and permeabilized fibroblasts. *The Journal of Cell Biology*. 1991 Aug 1;114(3):503–513.

46.

Miyoshi T, Tsuji T, Higashida C, Hertzog M, Fujita A, Narumiya S, Scita G, Watanabe N. Actin turnover-dependent fast dissociation of capping protein in the dendritic nucleation actin network: evidence of frequent filament severing. *The Journal of Cell Biology*. 2006 Dec 11;175(6):947–955.

47.

Lee CH, Coulombe PA. Self-organization of keratin intermediate filaments into cross-linked networks. *The Journal of Cell Biology*. 2009 Aug 3;186(3):409–421.

48.

Colakoglu G, Brown A. Intermediate filaments exchange subunits along their length and elongate by end-to-end annealing. *The Journal of Cell Biology*. 2009 May 25;185(5):769–777.

49.

Akin O, Mullins RD. Capping Protein Increases the Rate of Actin-Based Motility by Promoting Filament Nucleation by the Arp2/3 Complex. *Cell*. 2008 May;133(5):841–851.

50.

Chen CY, Chi YH, Mutalif RA, Starost MF, Myers TG, Anderson SA, Stewart CL, Jeang KT. Accumulation of the Inner Nuclear Envelope Protein Sun1 Is Pathogenic in Progeric and Dystrophic Laminopathies. *Cell*. 2012 Apr;149(3):565–577.

51.

Chang L, Barlan K, Chou YH, Grin B, Lakonishok M, Serpinskaya AS, Shumaker DK, Herrmann H, Gelfand VI, Goldman RD. The dynamic properties of intermediate filaments during organelle transport. *Journal of Cell Science*. 2009 Jul 28;122(16):2914–2923.

52.

Helfand BT, Mendez MG, Murthy SNP, Shumaker DK, Grin B, Mahammad S, Aebi U, Wedig T, Wu YI, Hahn KM, Inagaki M, Herrmann H, Goldman RD. Vimentin organization modulates the formation of lamellipodia. *Molecular Biology of the Cell*. 2011 Feb 23;22(8):1274–1289.

53.

Ura S, Pollitt AY, Veltman DM, Morrice NA, Machesky LM, Insall RH. Pseudopod Growth and Evolution during Cell Movement Is Controlled through SCAR/WAVE Dephosphorylation. *Current Biology*. 2012 Apr;22(7):553–561.

54.

Siton O, Ideses Y, Albeck S, Unger T, Bershadsky AD, Gov NS, Bernheim-Groswasser A. Cortactin Releases the Brakes in Actin- Based Motility by Enhancing WASP-VCA Detachment from Arp2/3 Branches. *Current Biology*. 2011 Dec;21(24):2092–2097.

55.

Suraneni P, Rubinstein B, Unruh JR, Durnin M, Hanein D, Li R. The Arp2/3 complex is required for lamellipodia extension and directional fibroblast cell migration. *The Journal of Cell Biology*. 2012 Apr 9;197(2):239–251.

56.

Bordeleau F, Myrand Lapierre ME, Sheng Y, Marceau N. Keratin 8/18 Regulation of Cell Stiffness-Extracellular Matrix Interplay through Modulation of Rho-Mediated Actin Cytoskeleton Dynamics. *PLoS ONE*. 2012 Jun 7;7(6).

57.

DANIAL N. Cell DeathCritical Control Points. Cell. 2004 Jan;116(2):205–219.

58.

Pop C, Salvesen GS. Human Caspases: Activation, Specificity, and Regulation. Journal of Biological Chemistry. 2009 May 26;284(33):21777–21781.

59.

Chipuk JE, Moldoveanu T, Llambi F, Parsons MJ, Green DR. The BCL-2 Family Reunion. Molecular Cell. 2010 Feb 12;37(3):299–310.

60.

Fuchs Y, Steller H. Programmed Cell Death in Animal Development and Disease. Cell. 2011 Nov;147(4):742–758.

61.

Liu X, Kim CN, Yang J, Jemmerson R, Wang X. Induction of Apoptotic Program in Cell-Free Extracts: Requirement for dATP and Cytochrome c. Cell. 1996 Jul 12;86(1):147–157.

62.

DATTA S. Akt Phosphorylation of BAD Couples Survival Signals to the Cell-Intrinsic Death Machinery. Cell. 1997 Oct;91(2):231–241.

63.

Brunet A, Bonni A, Zigmond MJ, Lin MZ, Juo P, Hu LS, Anderson MJ, Arden KC, Blenis J, Greenberg ME. Akt Promotes Cell Survival by Phosphorylating and Inhibiting a Forkhead Transcription Factor. Cell. 1999 Mar;96(6):857–868.

64.

Whitfield J, Neame SJ, Paquet L, Bernard O, Ham J. Dominant-Negative c-Jun Promotes Neuronal Survival by Reducing BIM Expression and Inhibiting Mitochondrial Cytochrome c Release. *Neuron*. 2001 Mar;29(3):629–643.

65.

Oltersdorf T, Elmore SW, Shoemaker AR, Armstrong RC, Augeri DJ, Belli BA, Bruncko M, Deckwerth TL, Dinges J, Hajduk PJ, Joseph MK, Kitada S, Korsmeyer SJ, Kunzer AR, Letai A, Li C, Mitten MJ, Nettesheim DG, Ng S, Nimmer PM, O'Connor JM, Oleksijew A, Petros AM, Reed JC, Shen W, Tahir SK, Thompson CB, Tomaselli KJ, Wang B, Wendt MD, Zhang H, Fesik SW, Rosenberg SH. An inhibitor of Bcl-2 family proteins induces regression of solid tumours. *Nature*. 2005 May 15;435(7042):677–681.

66.

Wright KM, Vaughn AE, Deshmukh M. Apoptosome dependent caspase-3 activation pathway is non-redundant and necessary for apoptosis in sympathetic neurons. *Cell Death and Differentiation*. 2006 Aug 25;14(3):625–633.

67.

Hübner A, Barrett T, Flavell RA, Davis RJ. Multisite Phosphorylation Regulates Bim Stability and Apoptotic Activity. *Molecular Cell*. 2008 May;30(4):415–425.

68.

Gavathiotis E, Suzuki M, Davis ML, Pitter K, Bird GH, Katz SG, Tu HC, Kim H, Cheng EHY, Tjandra N, Walensky LD. BAX activation is initiated at a novel interaction site. *Nature*. 2008 Oct 23;455(7216):1076–1081.

69.

Johnson CH. Circadian clocks and cell division. *Cell Cycle*. 2010 Oct;9(19):3864–3873.

70.

Vatine G, Vallone D, Gothilf Y, Foulkes NS. It's time to swim! Zebrafish and the circadian clock. *FEBS Letters*. 2011 May;585(10):1485–1494.

71.

Tamai TK, Young LC, Cox CA, Whitmore D. Light Acts on the Zebrafish Circadian Clock to Suppress Rhythmic Mitosis and Cell Proliferation. *Journal of Biological Rhythms*. 2012 May 31;27(3):226–236.

72.

Idda ML, Kage E, Lopez-Olmeda JF, Mracek P, Foulkes NS, Vallone D. Circadian Timing of Injury-Induced Cell Proliferation in Zebrafish. *PLoS ONE*. 2012 Mar 29;7(3).

73.

Dong G, Yang Q, Wang Q, Kim YI, Wood TL, Osteryoung KW, van Oudenaarden A, Golden SS. Elevated ATPase Activity of KaiC Applies a Circadian Checkpoint on Cell Division in *Synechococcus elongatus*. *Cell*. 2010 Feb 19;140(4):529–539.

74.

Dickmeis T, Lahiri K, Nica G, Vallone D, Santoriello C, Neumann CJ, Hammerschmidt M, Foulkes NS. Glucocorticoids Play a Key Role in Circadian Cell Cycle Rhythms. *PLoS Biology*. 2007 Mar 20;5(4).

75.

Dekens MPS, Santoriello C, Vallone D, Grassi G, Whitmore D, Foulkes NS. Light Regulates the Cell Cycle in Zebrafish. *Current Biology*. 2003 Dec;13(23):2051–2057.

76.

Matsuo T. Control Mechanism of the Circadian Clock for Timing of Cell Division in Vivo. *Science*. 2003 Oct 10;302(5643):255–259.

77.

Baker DJ, Wijshake T, Tchkonia T, LeBrasseur NK, Childs BG, van de Sluis B, Kirkland JL, van Deursen JM. Clearance of p16Ink4a-positive senescent cells delays ageing-associated disorders. *Nature*. 2011 Nov 2;479(7372):232–236.

78.

Serrano M, Blasco MA. Cancer and ageing: convergent and divergent mechanisms. *Nature Reviews Molecular Cell Biology*. 2007 Sep;8(9):715–722.

79.

Krizhanovsky V, Yon M, Dickins RA, Hearn S, Simon J, Miething C, Yee H, Zender L, Lowe SW. Senescence of Activated Stellate Cells Limits Liver Fibrosis. *Cell*. 2008 Aug;134(4):657–667.

80.

Xue W, Zender L, Miething C, Dickins RA, Hernando E, Krizhanovsky V, Cordon-Cardo C, Lowe SW. Senescence and tumour clearance is triggered by p53 restoration in murine liver carcinomas. *Nature*. 2007 Jan 24;445(7128):656–660.

81.

Narita M, Lowe SW. Senescence comes of age. *Nature Medicine*. 2005 Sep;11(9):920–922.

82.

Sarin KY, Cheung P, Gilson D, Lee E, Tennen RI, Wang E, Artandi MK, Oro AE, Artandi SE. Conditional telomerase induction causes proliferation of hair follicle stem cells. *Nature*. 2005 Aug 18;436(7053):1048–1052.