**Chapter 18 The Cell Cycle**

**18.1 The Eukaryotic Cell Cycle**

Cimprich, K. A. and D. Cortez. 2008. ATR: an essential regulator of genome integrity. *Nature Rev. Mol. Cell Biol.* 9: 616–627. [R]

Forsburg, S. L. and P. Nurse. 1991. Cell cycle regulation in the yeasts *Saccharomyces cerevisiae* and *Schizosaccharomyces pombe*. *Ann. Rev. Cell Biol.* 7: 227–256. [R]

Harper, J. W. and S. J. Elledge. 2007. The DNA damage response: ten years after. *Mol. Cell* 28: 739–745. [R]

Hartwell, L. H. and T. A. Weinert. 1989. Checkpoints: Controls that ensure the order of cell cycle events. *Science* 246: 629–634. [R]

Morgan, D. O. 2007. *The Cell Cycle: Principles of Control*. New Science Press: London.

Norbury, C. and P. Nurse. 1992. Animal cell cycles and their control. *Ann. Rev. Biochem.* 61: 441–470. [R]

**18.2 Regulators of Cell Cycle Progression**

Arias, E. E. and J. C. Walter. 2007. Strength in numbers: preventing re-replication via multiple mechanisms in eukaryotic cells. *Genes Dev.* 21: 497–518. [R]

Blow, J. J. and A. Dutta. 2005. Preventing re-replication of chromosomal DNA. *Nature Rev. Mol. Cell Biol.* 6: 476–486. [R]

Besson, A., S. F. Dowdy and J. M. Roberts. 2008. CDK inhibitors: cell cycle regulators and beyond. *Dev. Cell* 14: 159–169. [R]

Bloom, J. and F. R. Cross. 2007. Multiple levels of cyclin specificity in cell-cycle control. *Nature Rev. Mol. Cell Biol.* 8: 149–159. [R]

Boutros, R., V. Lobjois and B. Ducommun. 2007. CDC25 phosphatases in cancer cells: key players? Good targets? *Nature Rev. Cancer* 7: 495–507. [R]

Bracken, A. P., M. Ciro, A. Cocito and K. Helin. 2004. E2F target genes: Unraveling the biology. *Trends Biochem. Sci.* 29: 409–417. [R]

 Chen, H.-Z., Tsai, S.-Y. and G. Leone. 2009. Emerging roles of E2Fs in cancer: an exit from cell cycle control. *Nature Rev. Cancer* 9: 785–797. [R]

Dick, F. A. and S. M. Rubin. 2013. Molecular mechanisms underlying RB protein function. *Nature Rev. Mol. Cell Biol.* 14: 297–306. [R]

Evans, T., E. T. Rosenthal, J. Youngblom, D. Distel and T. Hunt. 1983. Cyclin: A protein specified by maternal mRNA in sea urchin eggs that is destroyed at each cleavage division. *Cell* 33: 389–396. [P]

Harper, J. W. and S. J. Elledge. 2007. The DNA damage response: ten years after. *Mol. Cell* 28: 739–745. [R]

Hartwell, L. H., R. K. Mortimer, J. Culotti and M. Culotti. 1973. Genetic control of the cell division cycle in yeast: V. Genetic analysis of *cdc* mutants. *Genetics* 74: 267–287. [P]

Hills, S. A. and J. F. X. Diffley. 2014. DNA replication and oncogene-induced replicative stess. *Current Biol.* 24: R435–R444. [R]

Kastenhuber, E. R. and S. W. Lowe. 2017. Putting p53 in context. *Cell* 170: 1062-1078. [R]

Lohka, M. J., M. K. Hayes and J. L. Maller. 1988. Purification of maturation-promoting factor, an intracellular regulator of early mitotic events. *Proc. Natl. Acad. Sci. U.S.A.* 85: 3009–3013. [P]

Malumbres, M. and M. Barbacid. 2009. Cell cycle, CDKs and cancer: a changing paradigm. *Nature Rev. Cancer* 9: 153–167. [R]

Masui, Y. and C. L. Markert. 1971. Cytoplasmic control of nuclear behavior during meiotic maturation of frog oocytes. *J. Exp. Zool.* 177: 129–146. [P]

Otto, T. and P. Sicinski. 2017. Cell cycle proteins as promising targets in cancer therapy. *Nature Rev. Cancer* 17: 93-115. [R]

Reinhardt, H. C. and M. B. Yaffe. 2009. Kinases that control the cell cycle in response to DNA damage: Chk1, Chk2, and MK2. *Current Opin. Cell Biol.* 21: 245–255. [R]

Sclafani, R. A. and T. M. Holzen. 2007. Cell cycle regulation of DNA replication. *Ann. Rev. Genet.* 41: 237–280. [R]

Smith, L. D. and R. E. Ecker. 1971. The interaction of steroids with *Rana pipiens* oocytes in the induction of maturation. *Dev. Biol.* 25: 232–247. [P]

 Swenson, K. I., K. M. Farrell and J. V. Ruderman. 1986. The clam embryo protein cyclin A induces entry into M phase and the resumption of meiosis in *Xenopus* oocytes. *Cell* 47: 861–870. [P]

Vousden, K. H. and D. P. Lane. 2007. p53 in health and disease. *Nature Rev. Mol. Cell Biol.* 8: 275–283. [R]

**18.3 The Events of M Phase**

Archambault, V. and D. M. Glover. 2009. Polo-like kinases: conservation and divergence in their functions and regulation. *Nature Rev. Mol. Cell Biol.* 10: 265–275. [R]

Barr, F. A., H. H. W. Sillje and E. A. Nigg. 2004. Polo-like kinases and the orchestration of cell division. *Nature Rev. Mol. Cell Biol.* 5: 429–440. [R]

Carmena, M. and W. C. Earnshaw. 2003. The cellular geography of Aurora kinases. *Nature Rev. Mol. Cell Biol.* 4: 842–854. [R]

Champion, L., M. I. Linder and U. Kutay. 2017. Cellular reorganization during mitotic entry. *Trends Cell Biol.* 27: 26-41. [R]

Cheeseman, I. M. and A. Desai. 2008. Molecular architecture of the kinetochore-microtubule interface. *Nature Rev. Mol. Cell Biol.* 9: 33–45. [R]

De Gramont, A. and O. Cohen-Fix. 2005. The many phases of anaphase. *Trends Biochem. Sci.* 30: 559–568. [R]

Glotzer, M. 2005. The molecular requirements for cytokinesis. *Science* 307: 1735–1739. [R]

Guttinger, S., E. Laurell and U. Kutay. 2009. Orchestrating nuclear envelope disassembly and reassembly during mitosis. *Nature Rev. Mol. Cell Biol.* 10: 178–191. [R]

Jongsma, M. L. M., I. Berlin and J. Neefjes. 2015. On the move: organelle dynamics during mitosis. *Trends Cell Biol.* 25: 112–124. [R]

Jurgens, G. 2005. Plant cytokinesis: Fission by fusion. *Trends Cell Biol.* 15: 277–283. [R]

Kamenz, J. and S. Hauf. 2017. Time to split up: dynamics of chromosome separation. *Trends Cell Biol.* 27: 42-54. [R]

Kline-Smith, S. L. and C. E. Walczak. 2004. Mitotic spindle assembly and chromosome segregation: Refocusing on microtubule dynamics. *Mol. Cell* 15: 317–327. [R]

Lara-Gonzalez, P., F. G. Westhorpe and S. S. Taylor. 2012. The spindle assembly checkpoint. *Current Biol.* 22: R966–R980. [R]

Lens, S. M. A., E. E. Voest and R. H. Medema. 2010. Shared and separate functions of polo-like kinases and aurora kinases in cancer. *Nature Rev. Cancer* 10: 825–841. [R]

Losada, A. and T. Hirano. 2005. Dynamic molecular linkers of the genome: The first decade of SMC proteins. *Genes Dev.* 19: 1269–1287. [R]

Lowe, M. and F. A. Barr. 2007. Inheritance and biogenesis of organelles in the secretory pathway. *Nature Rev. Mol. Cell Biol.* 8: 429–439. [R]

Ma, H. T. and R. Y. C. Poon. 2011. How protein kinases coordinate mitosis in animal cells. *Biochem. J.* 435: 17–31. [R]

Musacchio, A. and E. D. Salmon. 2007. The spindle-assembly checkpoint in space and time. *Nature Rev. Mol. Cell Biol.* 8: 379–393. [R]

Peters, J.-M. , A. Tedeschi and J. Schmitz. 2008. The cohesin complex and its roles in chromosome biology. *Genes Dev.* 22: 3089–3114. [R]

Petronczki, M., P. Lenart and J.-M. Peters. 2008. Polo on the rise—from mitotic entry to cytokinesis with Plk1. *Dev. Cell* 14:646–659. [R]

Rieder, C. L. and A. Khodjakov. 2003. Mitosis through the microscope: Advances in seeing inside live dividing cells. *Science* 300: 91–96. [R]

Sivakumar, S. and G. J. Gorbsky. 2015. Spatiotemporal regulation of the anaphase promoting complex in mitosis. *Nature Rev. Mol. Cell Biol.* 16: 82–94. [R]

Sullivan, M. and D. O. Morgan. 2007. Finishing mitosis, one step at a time. *Nature Rev. Mol. Cell Biol.* 8: 894–903. [R]

Walczak, C. E., S. Cai and A. Khodjakov. 2010. Mechanisms of chromosome behaviour during mitosis. *Nature Mol. Cell Biol.* 11: 91–102. [R]

Wood, A. J., A. F. Severson and B. J. Meyer. 2010. Condensin and cohesin complexity: the expanding repertoire of functions. *Nature Rev. Genet.* 11: 391–404. [R]

Zitouni, S., C. Nabais, S. C. Jana, A. Guerrero and M. Bettencourt-Dias. 2014. Polo-like kinases: structural variations lead to multiple functions. *Nature Rev. Mol. Cell Biol.* 15: 433–452. [R]