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	Autore	Turner Bryan M
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Genes are packaged into nucleosomes, even when they are being transcribed; Genetic experiments in yeast show the importance of histones for gene regulation; Changes in chromatin structure precede gene activation; Increased histone acetylation can precede or accompany the onset of transcription; DNaseI hypersensitive sites; Nucleosome positioning in vitro and in vivo; Chromatin domains; Chapter 7 How the Transcription Machinery Deals with Chromatin; Introduction; In vitro studies of transcription factor binding

A crowded nucleosome: Mouse Mammary Tumour Virus nucleosome BThe opportunities presented by DNA replication; Chromatin and the elongation stage of transcription; Chapter 8 Chromatin Remodelling Machines; Introduction; Nucleosome remodelling enzymes; Histone acetyltransferases (HATs); Histone deacetylases; The nuclear receptors; Chromatin and cancer; Chapter 9 Heterochromatin; Introduction; and heterochromatin in Drosophila; Facultative and constitutive heterochromatin; Heterochromatin DNA; Heterochromatin genes; Heterochromatin proteins; Position effect variegation

Heterochromatin and gene expression in mammalsChapter 10 Long-term Silencing of Gene Expression; Introduction; DNA methylation; Silencing at telomeres and mating type loci in yeast; Chapter 11 Cellular Memory and Imprinting; Introduction; Maintenance of transcriptional states; Imprinted genes; Chapter 12 Mechanisms of Dosage Compensation; Introduction; Methods of sex determination; Dosage compensation in mammals; Dosage compensation in Drosophila; Dosage compensation in C. elegans; Lessons from dosage compensation; Index

Sommario/riassunto	Written in an informal and accessible style, Chromatin and Gene Regulation enables the reader to understand the science of this rapidly moving field. Chromatin is a fundamental component in the network of controls that regulates gene expression. Many human diseases have been linked to disruption of these control processes by genetic or environmental factors, and unravelling the mechanisms by which they operate is one of the most exciting and rapidly developing areas of modern biology. Chromatin is central both to the rapid changes in gene transcription by which cells respond to changes