Histone methylation

Histone methylation is a process by which methyl groups are transferred to aminoacids of histone proteins that make up nucleosomes, which the DNA double helix wraps around to form chromosomes. Methylation of histones can either increase or decrease transcription of genes, depending on which amino acids in the histones are methylated, and how many methyl groups are attached. Methylation events that weaken chemical attractions between histone tails and DNA increase transcription, because they enable the DNA to uncoil from nucleosomes so that transcription factor proteins and RNA polymerase can access the DNA. This process is critical for the regulation of gene expression that allows different cells to express different genes.