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MECHANICAL ANALYSIS OF MODULATION OF CHROMATIN STRUCTURE

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Maintenance and remodeling of eukaryotic chromatin structure is an emerging topic for understanding relationship among gene expression/silencing, DNA replication and resultant cellular phenomena. To clarify key regulators in chromatin-mediated transcription, we have isolated potential interactors for TATA box-binding factor TFIID as well as those for general transcription initiation factors. Here I report isolation and characterization of three key enzymes/factors: Tip60, a MYST-type histone acetyltransferase; CIA, the most conserved histone chaperone; and CIB, a novel TFIID-interactive hydrolase family member. Through analyses on the structure-function relationships of these novel types of chromatin-modulating factors, I would like to summarize here our strategy, recent advances and future themes on chromatin structure-modulating systems.