

Structural and biophysical study of chromatin and Its Regulation by Effector Protein

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1. Introduction

Chromatin refers to a mixture of DNA and proteins that form the chromosomes found in the cells of humans and other higher organisms. Histones package the massive amount of DNA in a genome into a highly compact form that can fit in the cell nucleus. 145-147bp DNA binds to the octamer, which is composed of four histone proteins (H2A, H2B, H3, H4), to form the NCP. Linker DNA connects the NCP to form chromatin. Chromatin structure is important for regulating gene expression and for the proper condensation and segregation of chromosomes during cell division. Several human genetic diseases have been found to be due to mutations in genes producing proteins known or suspected to be involved in maintaining or modifying chromatin structure.

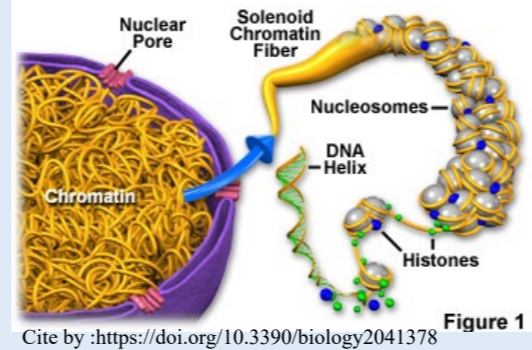


Figure 1
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2. In-vitro reconstruction

