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Effective Tool in Epigenetic by [Work](#)

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Science is developing at a rapid pace and it is bestowing mankind with a large spectrum of facilities in every possible field. Experiments always lead to innovations and one of the highly effective experiments is Chromatin Immunoprecipitation.

Chromatin immunoprecipitation is a very effective tool used for understanding connections amongst particular proteins or any other modified structure of proteins within a set of chromosomes. This technique allows the generation of a vivid representation of the interactions between protein and DNA which occurs inside the nucleus of the living tissues or cells.

The principle foundation of this ChIP assay is as follows. The DNA binding proteins in any living cell can easily be cross linked (normally attained by the application of formaldehyde) to the DNA they are attached with. After cross linking, DNA is broken down into the required size by a process called sonication and the protein-DNA complexes are then purified. The usage of a specific antibody allows to immunoprecipitate protein-DNA complex from the cellular lysates. These complexes are heated and treated with detergents for reversing the cross linking of DNA and for liberating DNA fragments from protein complexes. Then DNA is purified and the quantity and identity of isolated DNA fragments can be determined by PCR, quantitative PCR (qPCR), array based analysis (ChIP-on-chip) or Next Generation Sequencing (ChIP-seq).

These experiments open up great possibilities in the development of various areas of therapeutics and diagnostics.

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