

Restriction endonucleases

Restriction endonuclease is an enzyme that cuts double stranded or single stranded DNA at specific recognition nucleotide sequence known as restriction sites. Restriction enzymes found in bacteria and archaea provide a defence mechanism against invaded viruses. So they are called immune system of prokaryotes. Restriction endonuclease was discovered by Daniel Nathans, Werner Arber and Hamilton Smith in 1970. The first isolated Restriction enzyme is Hind III. Restriction endonucleases are used in Recombinant DNA technology, DNA footprinting, Restriction mapping etc. There are 3 types of Restriction enzymes.

- Type I Cleave the DNA at site remote from recognition site.
- Type II Cleave within or at short specific distance from recognition site.
- Type III Cleave the DNA at site a short distance from recognition site.