

## \* Enzymes used in recombinant DNA research :-

- phosphatase - Removal of 5'-PO<sub>4</sub> group prior to kinase labeling
- prevent self ligation
- DNA ligase - Joining of DNA molecule
- DNA Polymerase I - Synthesis of double stranded cDNA.
- DNA labeling
- Nick translation
- generation of blunt ends from sticky ends.
- Thermostable DNA polymerase - PCR (DNA synthesis) mutagenesis.
- DNase I - Nick translation
- mapping of hypersensitive site
- mapping protein-DNA interaction
- Exonuclease III - DNA sequencing
- mapping of DNA protein interaction
- λ exonuclease - DNA sequencing
- mapping of DNA protein interaction
- polynucleotide kinase - <sup>32</sup>P end labeling of DNA or RNA
- Reverse transcriptase - Synthesis of cDNA from mRNA, RNA mapping studies
- RNAse H - Synthesis of cDNA from mRNA
- S<sub>1</sub> nuclease - Removal of hairpin in synthesis of cDNA
- RNA mapping studies
- Terminal transferase - Homopolymer tailing
- Recombinases - Generation of specific chimeric DNA molecule
- CRISPER - Cas9/Cas2 - genome editing with variation modulation of gene expression at DNA & RNA level.