Department of BSBE Indian Institute Of Technology Guwahati



Introduction to Genetic Engineering

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BT 207 – Genetic Engineering
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Therapeutic products

Vaccines

Growth hormones

Antibodies

Vectors

Recombinant protein

Anticancer drugs

Genetically modified products

Fruits

GM vegetables

GM crops

GM microbes

GM animals

Recombinant DNA technology

Diagnosis

Gene therapy

CRISPR

Monitoring devices

Therapeutic strategies

Energy applications

Biohydrogen

Bioethanol

Biomethanol

Biobutanol



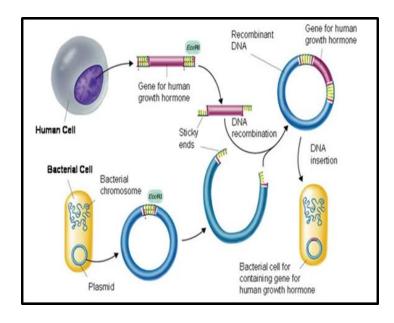
Genetic Engineering- Genetic engineering is the process of using recombinant DNA (rDNA) technology to alter the genetic makeup of an organism.

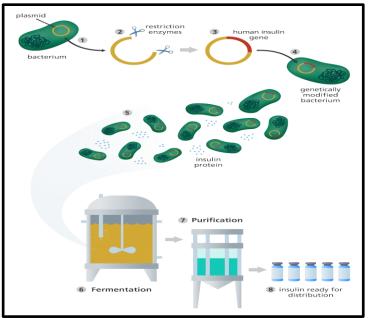
A gene from another species is added to an organism's genome to give it a desired phenotype.

What comes to your mind?

What is the recombinant DNA??

What is genetically engineered?

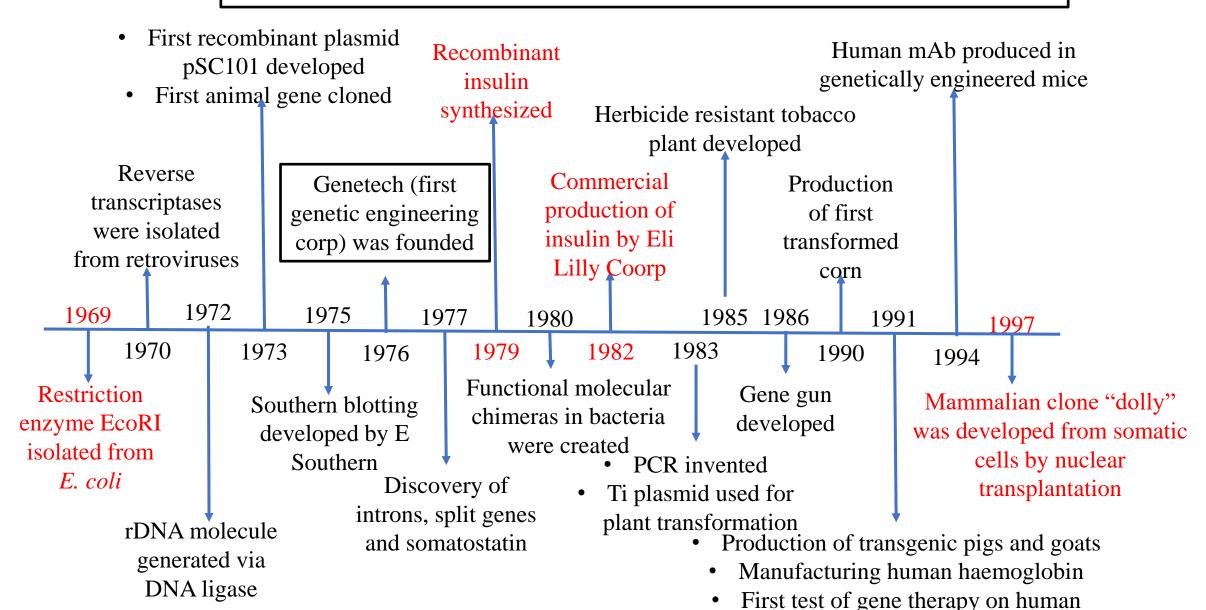




Discoveries in DNA DNA based diagnostic technology for genetic disorders 2000's 1990'5 The human genome is sequenced New cloning Now possibilities Watson and developed Gene therapy has Crick discover been used as treat-DNA double ment for blood canhelix structure cers and Leukemia 1980's 1970's 1960'5 CRISPR makes gene editing a reality **DNA** modification allows for GMO foods and other agricultural

advancements

Timeline of evolution of Recombinant DNA Technology and genetic engineering



cancer patients

