



Rdna Technology Services Section Home

History

The roots of rDNA technology trace back to the early 1970s when scientists first managed to combine genetic material from different sources. Stanley Cohen and Herbert Boyer's collaboration in 1973 resulted in the successful creation of the first recombinant DNA molecule. This accomplishment marked the beginning of a new era in genetic manipulation and paved the way for the biotechnology revolution.

Evolution till Date

Since its inception, rDNA technology has undergone significant advancements. The development of techniques like polymerase chain reaction (PCR) enabled the amplification of DNA segments, while gene editing tools like CRISPR-Cas9 brought precision to genetic manipulation. These innovations have reshaped medical research, personalized medicine, and agriculture.

Pharmaceutical Production

rDNA technology facilitates the production of therapeutic proteins like insulin, growth hormones, and clotting factors.

2.

Bioremediation

Engineered microorganisms help detoxify polluted environments.

4.

Biofuel Production

Enhanced microorganisms for bioethanol and biodiesel production.

6.

Vaccine Development

Efficient production of vaccines using recombinant proteins.

8.

Stem Cell Therapy

Genetic modification of stem cells holds promise for regenerative medicine.
10.

Future Prospects

The future of rDNA technology is promising and multifaceted. Innovations include:

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Precision Medicine

Tailoring treatments based on individual genetic makeup.

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Environmental Applications

Addressing ecological challenges through genetic engineering.

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