KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalaivar Kamarajar"

CRISPR/Cas9 Technology

Published On: 08-06-2024

Scientists developed a new exosome-based CRISPR/Cas9 gene-editing Platform

What is Exosomes ?

They are naturally occurring vesicles that have the potential to be manipulated to become promising drug delivery vehicles for on-demand in vitro and in vivo gene editing. It significantly enhances the delivery of CRISPR/Cas9 genome editing components to specific cells.

CRISPR/Cas9 Technology :

It is a type of genome editing technology. It is utilised to change genetic code or edit Deoxyribonucleic acid (DNA) at particular locations.

Working: Works as cut and paste mechanism on DNA Strands. Genetic codes that need to be changed are identified. Cas9 protein is used as a pair of molecular scissors to cut off a part from strand, allowing modifications to the genome.

Applications of CRISPR: Edit genes in human embryo. Change genetic codes of crops to improve crop resilience, treating diseases like sickle cell disease etc.