BIRSA 101

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Recently, the union Minister of State (Independent Charge) for Science & Technology launched India's first indigenous "CRISPR" based gene therapy for Sickle Cell Disease and named it BIRSA 101.

About BIRSA 101

It is India's first indigenous CRISPR-based gene therapy, designed to treat Sickle Cell Disease (SCD).

The therapy has been named Birsa-101 in honour of the tribal leader Birsa Munda.

Developed by: It is developed by the CSIR-Institute of Genomics and Integrative Biology (IGIB).

Key Features of BIRSA 101

CRISPR Technology: It utilizes the CRISPR-Cas9 gene-editing tool to correct the genetic mutation causing Sickle Cell Disease.

Affordability: It is priced significantly lower than global CRISPR treatments, making it more accessible to the poorest populations.

How does Birsa-101 Cure Sickle Cell Disease?

Birsa-101 precisely corrects the mutations in the genetic code that causes the disease.

The therapy has to be given as a one-time infusion, after which the body should start producing normal red blood cells instead of sickle-shaped ones.

What is Sickle Cell Disease?

It is a genetic condition that leads to the body’s red blood cells becoming rigid, sickle-shaped, and less capable of carrying oxygen.

The shape of the blood cells can also lead to blockages in blood flow, leading to acute episodes of pain, chronic pain, organ damage, anaemia, infections, and strokes.

A person can be a carrier and not have a disease.

The likelihood of a child having the disease increases if both parents are carriers or one parent has the disease and the other is a carrier