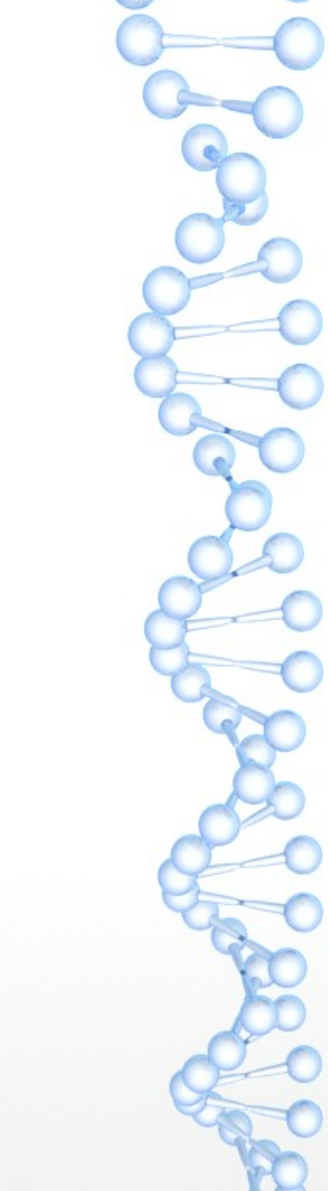

GENOME EDITING

Genome editing (or gene editing) is a group of technologies that give scientists the ability to change an organism's DNA. These technologies allow genetic material to be added, removed, or altered at particular locations in the genome. Several approaches to genome editing have been developed

What is genome editing?

- Genome editing is a technique used to precisely and efficiently modify DNA within a cell.
- It involves making cuts at specific DNA sequences with enzymes called ‘engineered nucleases’.
- Genome editing can be used to add, remove, or alter DNA in the genome.
- By editing the genome the characteristics of a cell or an organism can be changed.

What is genome editing used for?

- For research: Genome editing can be used to change the DNA in cells or organisms to understand their biology and how they work.
- To treat disease: Genome editing has been used to modify human blood cells that are then put back into the body to treat conditions including leukaemia and AIDS. It could also potentially be used to treat other infections (such as MRSA) and simple genetic conditions (such as muscular dystrophy and haemophilia).
- For biotechnology: Genome editing has been used in agriculture to genetically modify crops to improve their yields and resistance to disease and drought, as well as to genetically modify cattle that don't have horns.