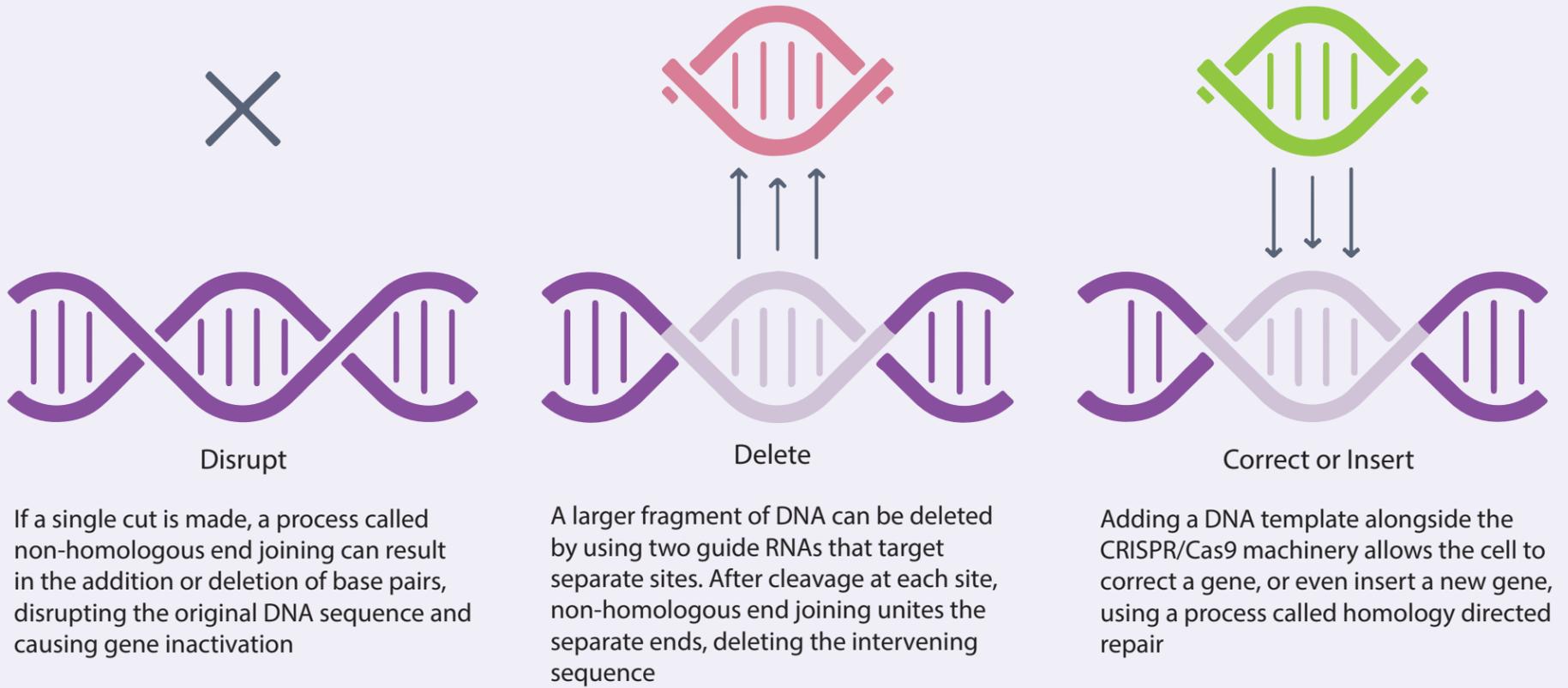


# Gene Editing

Genome editing is a method that lets scientists change the DNA of many organisms, including plants, bacteria, and animals. Editing DNA can lead to changes in physical traits, like eye color, and disease risk. This technology has some arguing its ethical properties versus it being unethical.

## CRISPR Gene Editing

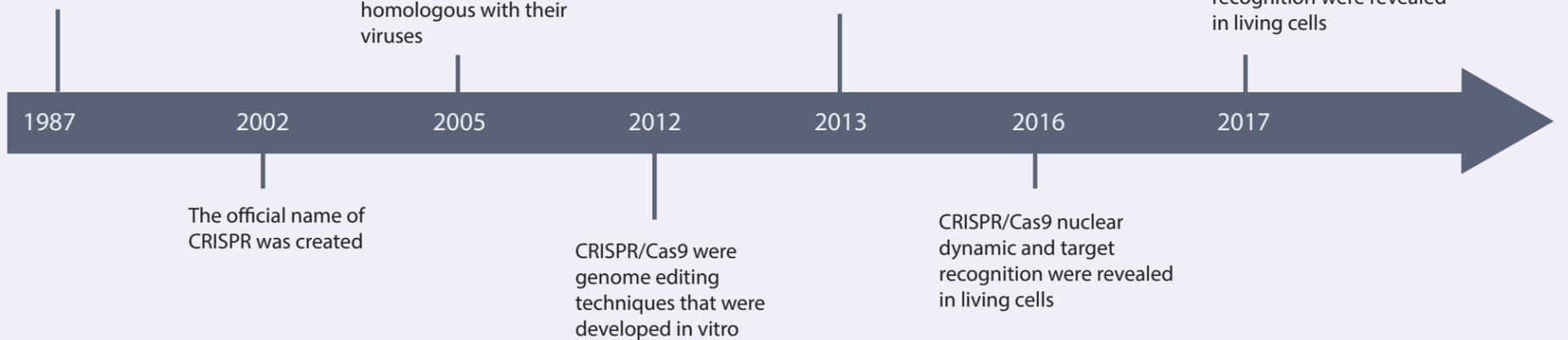


Francisco Majica discovered repeat sequences that are now classified as hallmarks of CRISPR

The spacer sequences in bacteria and archaea were found highly homologous with their viruses

CRISPR/Cas9 system was engineered and used to edit mammalian cells in 2013

CRISPR/Cas9 nuclear dynamic and target recognition were revealed in living cells



### Advantage

- Tackling and fighting diseases: Technology such as CRISPR can locate and kills cancer cells, help speed up the drug discovery process, and prevent inherent diseases from the parent to offspring
- Genome editing can extend the human lifespan by reversing illnesses and diseases that can kill off human more earlier than expected
- Can aid in designing foods that can withstand harsh weather and temperature and prevent the use of Insecticides and pesticides that aren't used on agriculture

### Disadvantage

- Since disease is natural, some believe that falling ill and dying prematurely is perfectly natural and sense the fear of an overpopulated earth if all disease is removed
- Safety concerns arise when conducting changes on brand new life in the womb. Complications like creating a new disease, miscarriage, premature birth, or stillbirth can all arise
- Genetically engineering our species will have a detrimental effect on our genetic diversity- as in something like cloning would