

Biotechnology

Timeline

Genetic engineering

Sequencing

DNA

DNA fingerprinting

Gene silencing

Genetically modified organisms

Polymerase chain reaction

Human genome project

1000

 genomes project

 genomes project

100,000

Solving crimes

Paternity testing

Cystic fibrosis

SCID

Ethical concerns

Sickle cell disease

Muscular dystrophy

Gene therapy

1996:

 Dolly the

sheep born

 Human

2003:

genome project

completed

2015: 1000

genomes

project

completed

9

 CRISPR Cas

2016:

Nanotechnology

Nanoparticles

Stem cells

Pluripotent

Totipotent

Therapeutic stem

cell therapy