

Modern genetic engineering



Mario Capecchi, Sir Martin Evans, and Oliver Smithies were awarded the Nobel Prize in Medicine in **2007**. Their scientific work made them pioneers of genetic engineering.

They developed the method of **gene targeting** as early as the 1980s. This modern technique of genetic engineering allows scientists to create so-called **knock-out mice**. In these ~~experimental mice~~, specific genes can be

switched off, edited or replaced by foreign genes. This can be used, for example, to investigate biological mechanisms.

Knock-out mice are now essential for basic and pharmaceutical research. Today, a range of different methods have been established to edit the genomes of animals and plants.

Exercises:

Watch the video “DNA III: Natural and Man-Made Alterations (2018)” again and answer the following questions about modern techniques of genetic engineering.

1. What three methods cited in the video are used today?

2. Broadly speaking, how do these methods work?

3. What potential do modern methods of genetic engineering have?
