

Transgenics

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A transgenic animal is an animal that has had its DNA modified to contain one or more genes from another organism. This process is often used in scientific research to study the function of genes or to produce animals with desired traits, such as increased resistance to disease or improved growth rates.

In a transgenic animal, the inserted gene(s) are present in every cell of the animal's body, including its gametes (sperm and eggs). This means that the modified gene(s) can be passed on to the animal's offspring, creating a line of animals with the same genetic modification.

Examples

Transgenic Animal	Protein Produced	Production Method
Goats	Antithrombin III	Microinjection of recombinant DNA into fertilized eggs
Rabbits	Factor VIII	Injection of recombinant DNA into fertilized eggs
Mice	Human albumin	Insertion of human albumin gene into mouse DNA using a virus
Cows	Alpha-1 Antitrypsin	Microinjection of recombinant DNA into fertilized eggs
Sheep	Alpha-galactosidase	Injection of recombinant DNA into fertilized eggs
Pigs	Hemoglobin	Injection of recombinant DNA into fertilized eggs
Chickens	Human growth hormone	Injection of recombinant DNA into fertilized eggs
Silkworms	Spider silk proteins	Injection of recombinant DNA into fertilized eggs
Fish	Human insulin	Injection of recombinant DNA into fertilized eggs
Algae	Human lactoferrin	Insertion of human lactoferrin gene into algal DNA