

Syrian hamster (*Mesocricetus auratus*)

1. The latest common species to be experimentally animalized

The only experimental hamster currently used in the country is the Syrian hamster. This desert rat with a short tail, a big mouth, and loose skin was only turned into an experimental animal in the 1930s. It was captured from the wild by scholars from the Hebrew University of Israel, and was raised from a single litter (including 1 male and 2 females) that was born in the laboratory began to reproduce. The experimental Syrian hamsters currently used around the world are all descendants of this hamster. Because they have few diseases, are moderate in size, and have good fecundity, they have become an experimental animal model.

2. Cheek pouch

One of the anatomical features of hamsters is that they have a pair of cheek pouches (such as hamsters) without lymphatic circulation. This is an organ they use to transport food. Before the development of immunocompromised mice, it was once regarded as a lineage that was unable to survive. In vivo culture medium for human tumor cells cultured in vitro.

3. Photoperiod and hibernation

Because the Syrian hamster's biological clock is extremely sensitive to the light period and can easily induce hibernation, it has become an important animal model for this type of research. Recently, melatonin, which is often used as an "anti-aging" health food, was discovered in the 1960s by researchers who used Syrian hamsters to study photoperiod and reproductive phenomena.

4. Commonly used safety tests

Since the gestation period of the Syrian hamster is only 16 days, and the period from embryo implantation in the uterus to birth of the fetus is only more than 10 days, it is often used in teratology research and related safety tests. At present, hamsters in animal centers are mainly used by obstetrics and gynecology departments in hospitals to culture hamster embryos in the prepared culture medium before artificial insemination. After confirming that it is non-toxic, they can be used to culture human embryos. In other words, they are also used for safety tests.

5. Common behavioral characteristics

A. Syrian hamsters, like most rodents, can use the ultrasonic waves they emit as "language". In hamsters, these languages may be related to their mutual hostility.

B. In the laboratory, if they are treated roughly, they will often stand and open their mouths to the maximum to show hostility. If a female hamster is frightened while nursing her offspring, she will often hold the offspring in her cheek pouches, and in the breeding cage, she will panic and bury herself in the bedding. If the time is too long, the offspring will be suffocated to death.

C. Female hamsters are slightly larger than male hamsters. During breeding, female hamsters are very picky for male rats. If female rats are unwilling to accept male rats, they often attack them and often kill the male rats fiercely.

D. They are quite strong and seem to have "cartilage skills". If the cage is not tightly closed, hamsters will often leave their own cage, but rarely return "home" on their own, which is different from rats.