



RESEARCH MODELS

Rats

Mice

Other rodents



FVB Hairless mouse

- **Strain name:** FVB/NRj-*hr^{rh}*
- **Type:** Inbred mutant mouse
- **Origin:** Bomholtgaard - Denmark, in 1996
- **Colour and related genotype:** Albino, naked skin (no fur), Tyrp1^b (*b/b*, brown), Tyr^c (*c/c*)
- **Breeding:** Difficult to breed

Description of our model

Spontaneous hairless mutants have been observed and studied for more than a century and hairless mouse lines have been systematically maintained in laboratories since the 1920's. This strain created by the National Institute of Health (NIH, USA) in 1935, is believed that the *hr^{rh}* mutation appeared few years ago, spontaneously becoming fixed in a hybrid strain (HOWARD, 1940) and then transferred to the FVB/N strain. The other name Rhino FVB comes from the extremely thickened and wrinkled skin of this mutant which gives it a thick, wrinkled appearance comparable to rhinoceros.

The JANVIER LABS FVB/NRj-*hr^{rh}* mouse strain received from Bomholtgaard (Ry, Denmark) in 1996 carries the rhino (*hr^{rh}*) mutation which is the most severe manifestation of hairless mutations (MANN, 1971). This is the spontaneous recessive mutation of the hairless gene located on chromosome 14.

FVB hairless mice develop a normal coat up to 10 days of age, then they begin to lose hair, starting from the head, until they become naked and this at the age of 5 weeks. Some hairs may persist in a diffuse way. The claws become long and curved. Hyperkeratosis eventually appears in the

most superficial layers of the stratified epithelium, especially around the hair follicles at around 2 weeks of age. Hyperkeratosis is very extensive and produces cysts, these are balls of keratin in the thickness of the skin that are produced in such large numbers that the surface of the skin increases considerably. The skin of the mice thickens and becomes wrinkled.

The development of the mammary glands is rudimentary. A high incidence of thymic lymphomas (benign tumors) is observed. The skin of this mouse is characterized by cyst formation, dilated sebaceous gland ducts, dermal inflammation and acanthosis and generalized orthokeratosis.

Despite their apparent resemblance to nude mice, FVB Hairless mice are perfectly immunocompetent.

Homozygous hairless females are generally infertile and have a shorter life expectancy (1 year on average).



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Main application and research fields

- Dermatology
- Studies on alopecia, evaluation of skin activity and drugs absorption.
- Analysis of wrinkle formation
- Exploring the protective effects of antioxidants on the skin and the successive stages of tumor progression induced by chemical agents or UV rays
- Study of the physiology of the skin and the aging process

Our added value

- The « JANVIER LABS Genetic Policy », a specific programme, guarantees homozygosity of autosomal pairs.
- Animals with the SPF or SOPF standards.
- A gentling policy for docile and easy-to-handle animals.
- Optimal stability conditions of our models during shipments, thanks to our dedicated and internal transport service.
- A scientific support with a team of Veterinarians and PhD.

The available scientific bibliography:

Research has been conducted, all over the world, from models bred in our laboratories. Discover our updated bibliography of available studies on our Internet website, heading: Customer Support.

Our additional offer



Laboratory Services



Transgenic Services