



NATURAL
IMMUNO-
DEFICIENT



MICE
Mutant inbred

GENETICALLY
ENGINEERED
MODELS
(GEM)

BALB/c Nude Mouse

WILD TYPE

Strain name: BALB/cAnN-Foxn1nu/nu/Rj

Type: Mutant inbred mouse

Origin: Nijmegen, 2023

NATURAL
MUTANTS

Colour and related genotype:

Albino mouse, A/A, Tyrc/Tyrc, Tyrp1b/Tyrp1b-
MHC: Haplotype H2d



Presentation of the model

The first nude mouse appeared in an outbred albino mouse stock at the Ruchill Hospital, Glasgow in 1962. This mutation was transferred to the stabilized genetic background of the inbred BALB/cAnN mouse by backcrossing. The genetic background was selected by MacDowell in 1923 from a stock of outbred albino mice obtained by Bagg in 1913. They were transferred to Snell at F32.

This mutation, identified by Dr. GRIST, is an autosomal recessive one and arises in the Foxn1 (forkhead box N1) gene (chromosome 11). It causes thymic aplasia which results in immunodeficiency. This results in a lack of T cells, B cells remain. This mutation also leads to a keratinisation defect of the hair follicle and the epidermis. This results in mice with transient downy hair. When this downy hair is gone, mice appear nude. There is no link between the presence of down and immunodeficiency severity.



Main application and research fields

ONCOLOGY

MONOCLONAL ANTIBODIES: STUDY AND PRODUCTION

EXPERIMENTAL INFECTIONS

TRANSPLANTATION: XENOGRAFT AND ALLOGRAFT

IMMUNOLOGY