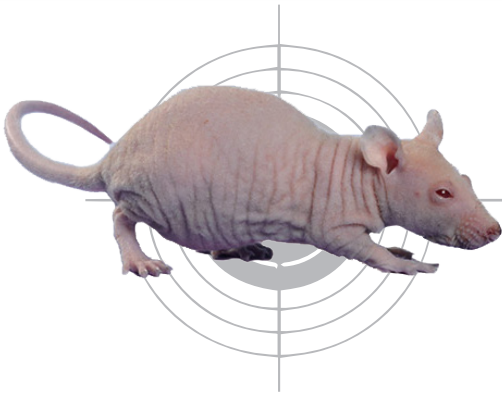


# 360° MODEL RANGE



## Rat ATHYMIC NUDE

- **Strain name:** Rj:ATHYM-*Foxn1<sup>rnu/rnu</sup>*
- **Common name:** Athymic rat/Athymic nude rat
- **Type:** Mutant rat
- **Origin:** JANVIER LABS, in 2018
- **Colour and related genotype:** Homozygous for the *rnu* gene, phenotype without fur "nu".

### PRESENTATION OF THE MODEL

The *rnu* mutation was discovered in 1953 in a HOODED rat colony at the Rowett Research Institute in Aberdeen, in Scotland. This natural genetic mutation causes in rats an absence of thymus. In the rare cases where leftovers remain visible, it is generally non-functional. This is accompanied by a deficient immune system due to insufficient production of T lymphocytes. The latest feature controlled by the *rnu* gene is an abnormal growth of the hair that results in a nude or almost nude skin (It may remain a light down on the body).

The ATHYMIC nude model's phenotype is therefore characterised by a lack of hair, hence its nickname of "nude". The gene responsible for the mutation was categorized as being a member of the *Foxn* gene family and the nomenclature recommends the name *Foxn1<sup>rnu</sup>*. The athymic rat or ATHYMIC nude at JANVIER LABS was obtained by fixing the *Foxn1<sup>rnu</sup>* gene from the nude LOU strain (LOU/MRj-

*Foxn1<sup>rnu/rnu</sup>*) on a LOU-FISCHER mixed background by the speed congenics technique until a 75% FISCHER background was reached (F344/HanZtmRj). Subsequently, the strain obtained is bred in outbreeding mode, while considering the particularity of the *rnu* gene's transmission.

The ATHYMIC nude rat is valuable for research as it can serve as a receptacle for different cell lines of a tumoral character both autologous and heterologous tumours, within the framework of cancer research, for example.

#### FEATURES

Females with the *rnu* gene in a homozygous manner are not effective breeders.

Comparative of immunodeficiency and phenotype in Nude mutants

| Strain       | Specie | Skin | T Lymphocytes | B Lymphocytes | Natural Killer cells | Mode    |
|--------------|--------|------|---------------|---------------|----------------------|---------|
| FISCHER nude | Rat    | Nude | Absent        | Present       | Present              | Inbred  |
| ATHYMIC nude | Rat    | Nude | Absent        | Present       | Present              | Outbred |
| LOU nude     | Rat    | Nude | Absent        | Present       | Present              | Inbred  |

### Main application and research fields

- ✕ Oncology
- ✕ Transplantation: xenograft and allograft
- ✕ Immunology
- ✕ Experimental infections