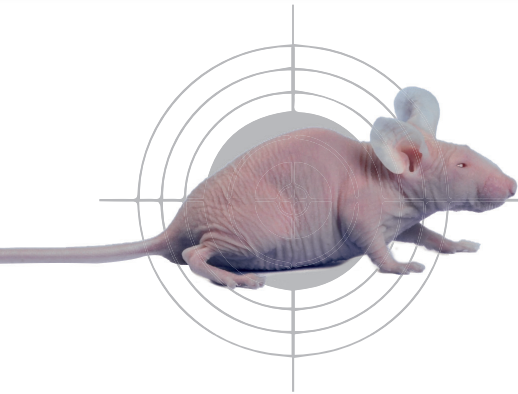


# 360° MODEL RANGE



## NMRI-nu mouse Immunodeficient

- **Strain name:** Rj:NMRI-*Foxn1<sup>nu/nu</sup>*
- **Type:** Mutant immunodeficient mouse
- **Origin:** CSAL (Orléans) - 1979
- **Colour and related genotype:** Albinos mouse - *Tyr<sup>c</sup>/Tyr<sup>c</sup>*

### PRESENTATION OF THE MODEL

The mutation appeared in 1962 in an outbred albino mouse stock at the Ruchill Hospital, Glasgow.

The mutation was transferred by Dr. Rygaard on the NMRI outbred strain for its better viability and fertility.

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 (total or partial) which results in immunodeficiency.

This results in a lack of T cells; B cells remain functional.

This mutation also leads to a keratinisation defect of the hair follicle and the epidermis. This results in mice with transient downy hair that, when it is gone, leads to an almost total absence of hair.

There is no link between the presence of down and immunodeficiency severity.

#### ■ Biochemical blood parameters

Parameters	Male	Female
Glucose (g/l)	2,3 ± 0,6	1,7 ± 0,1
Urea (g/l)	0,4 ± 0,1	0,4 ± 0,1
AST (UI/l)	139 ± 50	161 ± 60
ALT (UI/l)	62 ± 31	60 ± 11
Alkaline phosphatase (UI/l)	108 ± 28	249 ± 64
Total Cholesterol (g/l)	1,4 ± 0,2	0,9 ± 0,1
Triglyceride (g/l)	1,1 ± 0,3	0,9 ± 0,3
Creatinine (mg/l)	4,2 ± 0,4	6,3 ± 0,5

*Biochemical blood parameters of 10-week-old Rj:NMRI-*Foxn1<sup>nu/nu</sup>* mice*

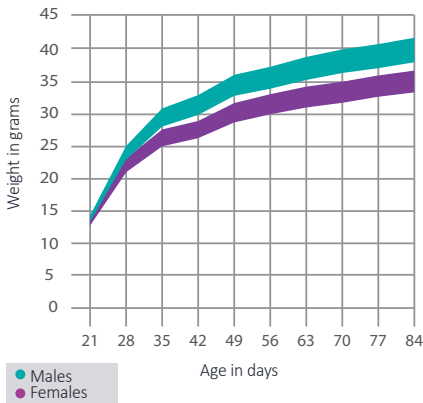
### Main application and research fields

- ✕ Monoclonal antibodies: study and production
- ✕ Immunology
- ✕ Experimental infections
- ✕ Oncology
- ✕ Transplantation: xenograft and allograft

# 360° MODEL RANGE

## GROWTH CURVE AND REPRODUCTIVE DATA

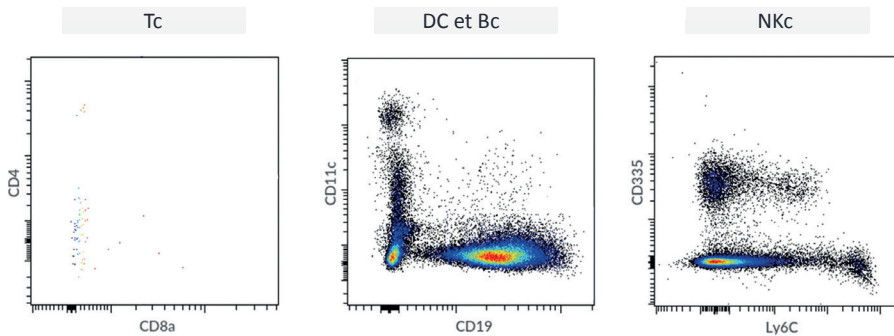
### ■ Growth curve



### ■ Haematological parameters

				Mean	Standard deviation
Concentration	Hemoglobin	Blood (g/dL)	F	15	0
			M	15	3
Concentration	Mean corpuscular hemoglobin concentration	Blood (g/dL)	F	30	0
			M	30	0
Concentration	Platelet absolute count	Blood (K/uL)	F	876	81
			M	986	236
Concentration	Red blood cell absolute count	Blood (M/uL)	F	10	1
			M	10	2
Concentration	Hematocrite	Blood (%)	F	50	2
			M	50	9
Frequencies	High fluorescence ratio reticulocyte	Blood (%)	F	52	4
			M	49	2
Frequencies	Immature reticulocyte fraction	Blood (%)	F	66	3
			M	62	1
Frequencies	Low fluorescence ratio reticulocyte	Blood (%)	F	34	3
			M	38	1
Frequencies	Medium fluorescence ratio reticulocyte	Blood (%)	F	14	1
			M	14	1
Frequencies	Platelet larger cell ratio	Blood (%)	F	3	2
			M	3	1
Frequencies	Plateletcrit	Blood (%)	F	1	0
			M	1	0
Frequencies	Reticulocyte absolute count	Blood (%)	F	6	1
			M	6	0
Quantity	Mean corpuscular hemoglobin	Blood (pg)	F	15	0
			M	15	0
Quantity	Mean corpuscular volume	Blood (fl)	F	51	2
			M	51	1

## FLOW CYTOMETRY ANALYSIS, SPLEEN



All lymphoid organs of our models were analysed.



## PHENOTYPIC CHARACTERISATION

This model has been entirely characterized. The immunological and hematological parameters were characterized by Center of Immunophenomics (Ciphe, Marseille, France).

Background	Breeding	Coat	T Lymphocytes	B Lymphocytes	Leakiness	NK cells	Dendritic cells
NMRI	Outbred	Nude	Absent	Normal	-	Normal	Normal
Macrophages	Complement	Irradiation tolerance	Life span	Humoral immunity	Lymphoma outcome	Genes of interest	
Normal	Normal	High	54 Wk.	Normal	Indefinite	Foxn1	

contact@janvier-labs.com  
Tel +33 (0)2 43 02 11 91

www.janvier-labs.com