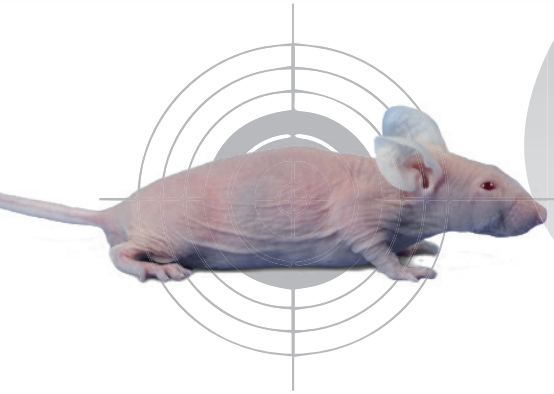
360° MODEL RANGE



Athymic Nude mouse
Immunodeficient

- **Strain name:** Rj:ATHYM-*Foxn1*$^{nu/nu}$
- **Type:** Mutant mouse
- **Origin:** Acquired by Janvier Labs in 2016
- **Colour and related genotype:** homozygous nu/nu, phenotype without fur "nude"

PRESENTATION OF THE MODEL

The athymic nude mouse is a model originating from a strain presenting a spontaneous and natural genetic mutation known as nude "nu". The gene responsible for the mutation has been categorized as being a member of the Fox gene family and the nomenclature recommends the denomination *Foxn1*$^{nu/nu}$.

The athymic nude mouse is obtained by fixing the *Foxn1*$^{nu/nu}$ gene on a genetic BALB/cAnNRj background and by proceeding with the breeding of this new strain in outbreeding mode.

The phenotype of the athymic nude model *Foxn1*$^{nu/nu}$ in a homozygous form is characterized by the absence of hair and a reduced immunity.

In terms of immune system, the thymus is sometimes partially present but never functional, with an absence of T lymphocytes around, and a B-cell functional deficiency (IgM responses only).

The absence of hair is noted from the birth as a consequence of defective hair follicles.

These follicles do not allow the hair to grow correctly during the entire cycle.

CARACTERISTICS
The nude homozygous females are not efficient breeders. The ovulation starts late at 2,5 months and ends (early) at 4 months. Hairless (no fur), albino background.

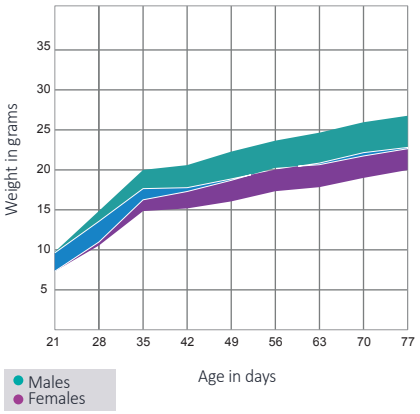
Main application and research fields

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

360° MODEL RANGE

GROWTH CURVE AND REPRODUCTIVE DATA

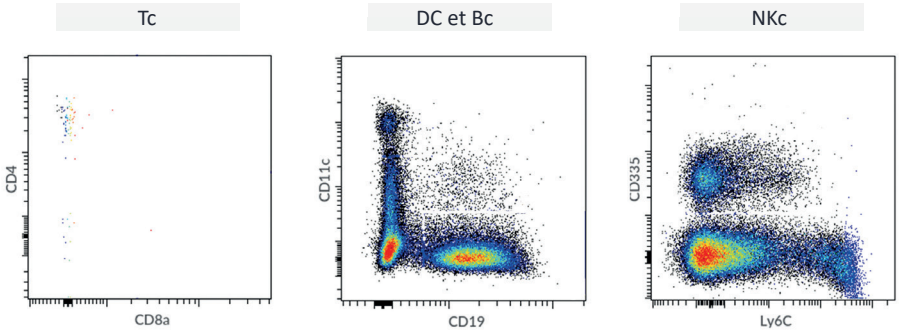
Growth curve



Haematological parameters

						Mean	Standard deviation
Concentration	Hemoglobin	Blood	(g/dL)	F		17	4
				M		21	10
	Mean corpuscular hemoglobin concentration	Blood	(g/dL)	F		37	6
				M		47	32
	Platelet absolute count	Blood	(K/uL)	F		583	363
				M		1,104	99
	Red blood cell absolute count	Blood	(M/uL)	F		10	1
				M		10	1
Frequencies	Hematocrite	Blood	(%)	F		47	4
				M		48	7
	High fluorescence ratio reticulocyte	Blood	(%)	F		54	4
				M		49	3
	Immature reticulocyte fraction	Blood	(%)	F		69	4
				M		65	2
	Low fluorescence ratio reticulocyte	Blood	(%)	F		31	4
				M		36	2
	Medium fluorescence ratio reticulocyte	Blood	(%)	F		15	1
				M		15	2
	Platelet larger cell ratio	Blood	(%)	F		4	
				M		4	0
	Plateletcrite	Blood	(%)	F		1	0
				M		1	0
	Reticulocyte absolute count	Blood	(%)	F		3	1
				M		5	3
Quantity	Mean corpuscular hemoglobin	Blood	(pg)	F		17	3
				M		22	15
	Mean corpuscular volume	Blood	(fL)	F		47	0
				M		48	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
BALB/c	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	

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