360° MODEL RANGE

B6γc mouse

- **Strain name:** C57BL/6N-*IL2rg*^{tm1Ciphe}/Rj
- **Type:** Inbred mutated mouse, GEMM
- **Origin:** Ciphe, Marseille France, in 2019
- **Colour and related genotype:** Black mouse, a (a/a) non agouti
  MHC : Haplotype H2b

PRESENTATION OF THE MODEL

The B6γc mouse is an immunodeficient mouse with a Knock Out (KO) genetic mutation in the IL2rg KO gene (Interleukin 2 receptor gamma chain, *IL2rg*^{Tm1}) on a C57BL/6N genetic background.

The *IL2rg*^{Tm1} mutation called γc is a KO mutati on of the gene coding for the γc chain that is common (in particular) to interleukins (IL-2, IL-4, IL-7, IL-9 and IL-15).

This gene is necessary for the differentiation and the function of numerous hematopoietic cells with a full impact on the development of Natural Killer cells (NK).

The B6γc (*IL2rg*) mouse has proven to be helpful for studies that include, for instance, transplants of allogeneic or syngeneic tumoral stem cells.

The B6γc strain is also helpful in combinati on with B6Rag2γc and B6Rag2 mice for studies aiming at understanding the role of T, B and NK cells in host resistance to tumors and infectious agents in particular.

JANVIER LABS obtained the B6γc (C57BL/6N-*Rag2*^{Tm1}-*IL2rg*^{Tm1}) through a homologous recombinati on (ES cells from B6N mice), developed at the Centre d'Immunophénomique (Ciphe, Marseille, France) in 2019.

Whereas other animal models that carry similar genes generally appear with a B6-129s joint genetic background, the JANVIER LABS B6γc strain is specifically and exclusively expressed on a C57BL/6NRj background.

Thus the genetic nature of the strain is perfectly controlled and homogeneous. Animals are bred so as to maintain both the geneti c background and the mutati ons of interest in their homozygous forms.

The B6γc strain is bred in an inbred manner and the phenotype is controlled according to the JANVIER LABS GENETIC POLICY®.

Main application and research fields

- **Oncology**
  - Development of tumor implantation studies
  - Studies on gene therapy
  - Studies of cancer therapies
- Studies using the use of human cell implantation in murine models
- Immunology and immunotherapy
- Transplants and grafts
- Infectiology

360° MODEL RANGE

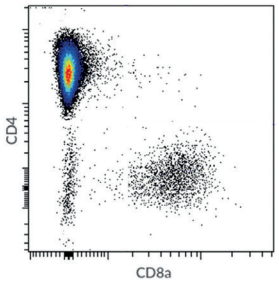
GROWTH CURVE AND REPRODUCTIVE DATA

■ Haematological parameters

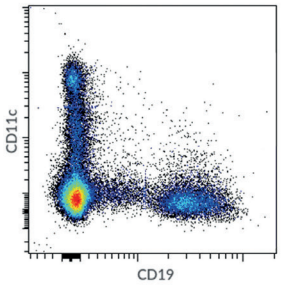
						Mean	Standard deviation
Concentration	Hemoglobin	Blood	(g/dL)	F		12	6
				M		16	1
	Mean corpuscular hemoglobin concentration	Blood	(g/dL)	F		32	3
				M		30	0
	Platelet absolute count	Blood	(K/uL)	F		977	431
				M		1,084	242
	Red blood cell absolute count	Blood	(M/uL)	F		8	4
				M		11	1
	White blood cell count	Blood	(K/uL)	F		1	1
				M		1	0
Frequencies	Hematocrite	Blood	(%)	F		38	21
				M		56	3
	High fluorescence ratio reticulocyte	Blood	(%)	F		43	2
				M		42	2
	Immature reticulocyte fraction	Blood	(%)	F		61	0
				M		58	1
	Low fluorescence ratio reticulocyte	Blood	(%)	F		39	0
				M		42	1
	Medium fluorescence ratio reticulocyte	Blood	(%)	F		19	2
				M		16	2
	Platelet larger cell ratio	Blood	(%)	F		5	3
				M		4	1
	Plateletcrite	Blood	(%)	F		1	1
				M		1	0
	Reticulocyte absolute count	Blood	(%)	F		5	0
				M		5	0
Quantity	Hémoglobine corpusculaire moyenne	Blood	(pg)	F		15	1
				M		15	0
	Mean corpuscular volume	Blood	(fL)	F		46	2
				M		49	0

FLOW CYTOMETRY ANALYSIS, SPLEEN

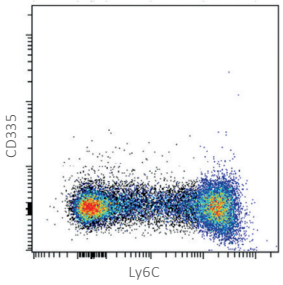
Tc



DC et Bc



NKc



All our immunodeficient models have been immunophenotyped.

PHENOTYPIC CHARACTERISATION

This model has been entirely characterized. The immunological and haematological parameters were characterized by Centre Immunophénomique in Marseille, France.

Background	Breeding	Coat	T Lymphocytes	B Lymphocytes	Leakiness	NK cells	Dendritic cells
C57Bl/6NRj	Inbred	Black	+/-	+/-	-	Absent	+/-
Macrophages	**Complement**	**Irradiation tolerance**	**Life span**	**Humoral immunity**	**Lymphoma outcome**	**Genes of interest**	
Normal	Normal	High	Min. 54 Wk.	Absent	Indefinite	IL2rg	

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