WILD TYPE

GENETICALLY ENGINEERED MODELS (GEM)

NATURAL MUTANTS

NATURAL IMMUNO-DEFICIENT

MICE
Inbred

C57BL/6JRj Mouse

Strain name: C57BL/6JRj

Type: Inbred mouse

Origin: CSAL (Orleans) - 1993 (F172)

Colour and related genotype:
Black mouse, a (a/a) non agouti
MHC: Haplotype $H2^b$

Breeding: Good breeder but quite difficult to rear (sensitive to the environment). Cannibalism with its pups

Presentation of the model

This strain was created by C.C. LITTLE, in 1921, from Miss Abbie LATHROP's stock. The Jackson Laboratory's colony was divided in two sub-strains before 1937, resulting in the C57BL/6 and the C57BL/10 strains. The C57BL/6 strain was brought to The Jackson Laboratory in 1948 (C57BL/6J).
It's a widely used strain and was the first one to have its genome sequenced. It's not very sensitive to spontaneous tumours but allows for the expression of a wide variety of mutations, hence its frequent use as genetic background in transgenic models.
C57BL/6JRj show age-related hearing loss and are resistant to audiogenic seizures. It is sensitive to Diet-Induced Type II diabetes and atherosclerosis. C57BL/6JRj can show alopecia of uncertain etiology: it could have behavioural causes – overgrooming/barbering (JAX® Notes, 1987, Sundberg et al., 2011) – or behaviour similar to human compulsive hair pulling (Garner et al., 2004).

C57BL/6JRj are also characterized by hereditary hydrocephalus (1 to 4% incidence), imperforate vagina after 24 to 28 days), low bone density, higher rates of malocclusion, high rates of microphtalmia and ocular malformations and addiction to morphine and alcohol.

C57BL/6JRj carry a deletion in the Nnt gene (arose in the C57BL/6J prior to 1984).
C57BL/6JRj are active and relatively aggressive but easy to manipulate and have a long life expectancy (2 years).

Hematological parameters* of 10-week old C57BL/6JRj mice

Parameters	Male	Female
Erythrocytes (10^{12}/l)	10.2 ± 0.2	9.9 ± 0.4
Hematocrit (l/l)	0.60 ± 0.02	0.58 ± 0.02
Hemoglobin (g/dl)	15.4 ± 0.4	15.2 ± 0.5
Mean corpuscular volume (fl)	60 ± 1	58 ± 1
Mean corpuscular rate (pg)	15.0 ± 0.0	15.3 ± 0.5
Hemoglobin concentration (g/dl)	26 ± 1	26 ± 1
Blood platelets (10^9/l)	1018 ± 192	946 ± 186
Leukocytes (10^9/l)	12.7 ± 3.8	14.9 ± 2.7
Neutrophils (10^9/l)	1.00 ± 0.26	0.88 ± 0.25
Lymphocytes (10^9/l)	10.49 ± 3.26	12.44 ± 2.38
Eosinophils (10^9/l)	0.59 ± 0.16	0.63 ± 0.24
Monocytes (10^9/l)	0.16 ± 0.05	0.16 ± 0.05
Basophils (10^9/l)	0.04 ± 0.07	0.12 ± 0.07

Reproductive data*

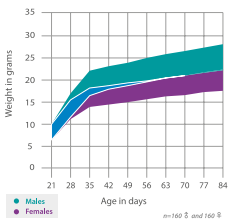
Bigamous mating	
Litter size at birth	6.53
Weaning %	80
Productivity index	0.76
Sterility %	4
Gestation time	Between 18 and 20 days

* JANVIER LABS 2011 Data, for an indicative basis

Biochemical blood parameters* of 10-week old C57BL/6JRj mice

Parameters	Male	Female
Glucose (g/l)	3.3 ± 0.7	3.5 ± 0.5
Urea (g/l)	0.5 ± 0.1	0.6 ± 0.1
AST (ASAT) (UI/l)	195 ± 127	193 ± 81
ALT (ALAT) (UI/l)	113 ± 98	95 ± 71
Alkaline phosphatase (UI/l)	166 ± 22	213 ± 44
Cholesterolaemia (g/l)	1.1 ± 0.1	0.9 ± 0.1
Triglycerides (g/l)	2.1 ± 0.5	1.9 ± 0.4
Creatinine (mg/l)	4.3 ± 0.7	5.1 ± 0.3

Growth curve of C57BL/6JRj Mice *



Our added value

- The «JANVIER LABS Genetic Policy», specific programme, guarantees homozygosity of autosomal pairs
- Animals with the SPF or SOPF standards
- A gentling policy for docile and easy-to-handle animals
- Optimal stability conditions of our models during shipments, thanks to our dedicated and internal transport service
- A scientific support with a team of Veterinarians and PhD

Main application and research fields

DEVELOPMENT BIOLOGY, AGEING | CARDIOVASCULAR RESEARCH: ATHEROSCLEROSIS

GENETIC BACKGROUND FOR TRANSGENIC ANIMALS PRODUCTION

INFECTIONS | METABOLISM: OBESITY, DIABETES, HYPERGLYCEMIA, INSULIN RESISTANCE

NEUROBIOLOGY AND NEURO-SENSORIAL RESEARCH | ONCOLOGY

TOXICOLOGY, HEMATOLOGY | IMMUNOLOGY AND INFLAMMATION

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

V25/07