

C57BL/Ka

C57BL/KaLwRijHsd

Developed in 1921 by Little from brother - sister pair (57 x 52) of Miss Abby Lathrop's stock. Strains C57BL/6 and C57BL/10 separated prior to 1937. In 1947 from Strong, Cold Spring Harbor, NY, to Kaplan, Stanford, CA, USA, to Law, National Cancer Institute, Bethesda, MD, USA.

In 1965 from Law, National Cancer Institute, Bethesda, MD, USA, to Radiobiological Institute TNO, Rijswijk, The Netherlands. In 1994, to Harlan Laboratories through acquisition of ITRI-TNO, Rijswijk. Harlan became Envigo in 2015, then Envigo was acquired by Inotiv in 2021.

CHARACTERISTICS

The C57BL is easily the most widely used strain. The C57BL/6 is widely used as the 'standard' inbred strain and has been used as the genetic background for a wide range of mutants. The C57BL/10 has been used as the inbred partner for a large number of congenic resistant strains.

Animal model

C57BL/KaLwRijHsd is an animal model for the human idiopathic paraproteinaemia. (Radl *et al*, 1978; Radl, 1981; Radl, 1994), and for multiple myeloma (Radl *et al*, 1985; Radl *et al*, 1988; Asosingh *et al*, 2000).

Anatomy

Occasionally, black spots have been seen on the spleens of some mice, due to clusters of melanocytes (Weissman, 1967)

Genetics

Coat color genes

- *a, B, C, D* : black.

Histocompatibility

- *H-2^b, Thy-1^b*.

Biochemical markers

- *Es-1^a, Es-2^b, Es-3^a, Es-5^b, Gpi-1^b, Hbb^b, Idh-1^a, Ldr-1^a, Mpi-1^a, Mup-1^b, Pgm-1^a, Trf^b*.

Life-span and spontaneous disease

Median life-span 27.6 months for C57BL/Ka males and 24.1 months for C57BL/Ka females. (Unpublished data). Main neoplastic lesions in males include reticulum cell sarcoma type B (29%), testes interstitial tumor (13%), thyroid follicular adenoma (9%), unclassified lymphoreticular tumors (9%). The main neoplastic lesions in females include reticulum cell sarcoma type B (23%), histiocytic sarcoma (18%), unclassifiable lymphoma (16%), thyroid follicular adenoma (2%). Non-neoplastic lesions include amyloidosis (Males 83%, females 73%), periarteritis nodosa (often mimicking the clinical signs of otitis media) (males 16%, females 36%), mesenteric disease

(males 10%, females 18), hydronephrosis (males 6%, females 9%), focal liquefactive necrosis in the brain (males 2%, females 12%). (Zurcher *et al*, 1982). About 50% of mice develop homogeneous immunoglobulins resembling idiopathic paraproteinaemia in man by 24 months (Radl and Hollander, 1974). Lymphocytic H-2-specific antibodies were found in sera from about 25 percent of aged mice (Ivanyi *et al*, 1982). Median life-span 21.5 months in C57BL/Lac males and 19.3 months in C57BL/Lac females (Festing and Blackmore, 1971). Median life-span 20.8 months in C57BL/He males and 20.0 months in C57BL/M females (Heston *et al*, 1972). Median life-span 27.0 months in C57BL/lcr males and 25.4 months in C57BL/lcr females (Rowlatt *et al*, 1972)

Miscellaneous

High degree of genetic distinctiveness (Taylor, 1972). In the C57BL/Ka mouse grows the 5T2 MM multiple myeloma. The paraprotein produced by the 5T2 MM clone is an IgG2a-kappa immunoglobulin (Radl *et al*, 1985).

Reproduction

Good breeding performance, litter size 5.5, productivity .78 young/female/week





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