C57BL

Origin:
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.

- **C57BL/KaLwRijHsd**
  
  In 1965 from Law, National Cancer Institute, Bethesda, MD, USA, to Radiobiological Institute TNO, Rijswijk, The Netherlands. In 1994, to Harlan Nederland through acquisition of ITRI-TNO, Rijswijk.

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 colour 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-S^b, Gpi-1^b, Hbb^b, Idh-1^a, Ldr-1^a, Mp1-1^a, Mup-1^a, Pgm-1^a, Trf^b.

- **Growth Chart**

  ![Growth Chart](image)

  **C57BL/KaLwRijHsd** – Harlan Nederland

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• **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 (Unpublished data).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 tumour (13%), thyroid follicular adenoma (9%), unclassified lymphoreticular tumours (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%), periarthritis 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/Icr males and 25.4 months in C57BL/Icr 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

**References:**


