

B6D2F1 (C57BL/6 x DBA/2)F1

B6D2F1/Hsd, B6D2F1/JRccHsd

B6D2F1/Hsd

Cross between C57BL/6NHsd females and DBA/2 NHsd males.

B6D2F1/JRccHsd

Cross between C57BL/6JRccHsd females and DBA/2JRccHsd males.

CHARACTERISTICS

The F1 hybrid of two inbred strains can be a useful animal for many purposes. It is genetically uniform and heterozygous for all the genes for which the two parental strains differ. F1 animals are easy to produce (hybrid vigor) and are less susceptible to environmental influences than the parent inbred strain. F1 mice will accept transplants of tissues from mice of either parental strain. This B6D2F1 hybrid has frequently been used in screening the antitumor activities of chemicals.

Genetics

Coat color genes

- *a/a, B/b, C/C, D/d* : black.

Histocompatibility

- *H-2^{b/d}*.

The B6D2F1 will be heterozygous for all the loci where the C57BL/6 and DBA/2 differ and homozygous for all the loci where both parental strains are the same.

Life-span

The median life-span is 27.5 months for males and 26.1 months for females (Yamate *et al*, 1990). The relationship of genotype, sex, body weight, and growth parameters to life-span in inbred and hybrid mice is described by Ingram *et al* (1982).

Nutrition

The immune function and food restriction during aging has been described by Venkatraman *et al* (1997). Caloric restriction and resistance to environmental disease have been described by Frame *et al* (1998).

Physiology and biochemistry

Parameters for hematology and clinical chemistry have been described by Harrison *et al* (1978). Levels of serum steroids, aromatase activity, and estrogen after castration have been described by Sinchak *et al*, 1996.

REFERENCES

1. Frame LT, Hart RW, Leaky JEA (1998) Caloric restriction as a mechanism mediating resistance to environmental disease. *Environ. Health Perspect* 106, 313-324.
2. Harrison SD, Burdeshaw JA, Crosby RG, Cusic AM, Denine EP (1978) Hematology and clinical chemistry reference values for C57BL/6 x DBA/2 F1 mice. *Cancer Res.* 38, 2636-2639.
3. Ingram DK, Reynolds MA, Les EP. The relationship of genotype, sex, body weight, and growth parameters to lifespan in inbred and hybrid mice. *Mech. Ageing Dev.* 20, 253-266.
4. Sinchak K, Roselli CE, Clemens LG (1996) Levels of serum steroids, aromatase activity, and estrogen receptors in preoptic area, hypothalamus and amygdala of B6D2F1 male house mice that differ in the display of copulatory behavior after castration. *Behavioral Neuroscience.* 110, 593-602.
5. Venkatraman JT, Attwood VG, Turturro A, Hart RW, Fernandez G (1997) Maintenance of virgin T cells and immune function by food restriction during aging in long-lived B6D2F1 female mice. *Aging. Immunol. Infect Dis.* 5, 13-25.
6. Yamate J, Tajima M, Kudow S, Sannai S (1990) Background pathology in BDF1 mice allowed to live out their life-span. *Lab. Anim.* 24, 332-340.

