ENVIGO

Research Models and Services

Inbred Rats

WF (Wistar Furth)

Origin

Developed by Furth in 1945 from a commercial Wistar stock, in an attempt to develop a strain with high incidence of leukemia. In 1975, to National Institutes of Health, Bethesda, Maryland.

WF/NHsd

Harlan Laboratories, Inc., obtained a breeding nucleus from National Institutes of Health. Harlan became Envigo in 2015.

Characteristics

Leukemia, characterized by an unusual type of mononuclear cell containing distinct reddish granules, occurred in 15.8-22% of old rats. Mean life-span 23 months in males and 21 months in females. High incidence of pituitary tumors. WF rats develop retinal dystrophy from about three months of age (Lin and Essner, 1988). Low serum growth hormone (Esber *et al*, 1974). Low blood pressure, reaching 123 mmHg at 10 weeks of age (Tanase *et al*, 1982). Low antibody response to streptococcal group A carbohydrate; not linked to RT1 (Stankus and Leslie, 1976). Resistant to the development of experimental autoimmune myasthenia gravis (Biesecker and Koffler, 1988). Grafts of aorta from DA develop arteriosclerotic changes in the vascular wall (Mennander *et al*, 1992). Resistant to the development of 4-nitroquinoline 1-oxide induced squamous cell carcinomas of the tongue. (Kitano *et al*, 1992).

Characteristics of the WF strain have been described by Festing (1979) and Greenhouse *et al* (1990).

Genetics

Coat color genes	- *a, B, c, h* : albino.
Histocompatibility	- $RT1^{u}$, $RT2^{b}$, $RT3^{b}$, $RT8^{b}$.
Biochemical markers	- *Acon-1*^{a}, *Acp-2*^{a}, *Ahd-2*^{a}, *Akp-1*^{a}, *Alb*^{a}, *Amyl*^{a}, *Cryg-1*^{a}, *Es-1*^{a}, *Es-2*^{c}, *Es-3*^{c}, *Es-4*^{b}, *Es-6*^{b}, *Es-7*^{b}, *Es-8*^{a}, *Es-9*^{c}, *Es-10*^{b}, *Es-14*^{b}, *Es-15*^{b}, *Es-16*^{b}, *Es-18*^{a}, *Fh-1*^{b}, *Gc*^{a}, *Glo-1*^{b}, *Gox-1*^{a}, *Hbb*^{a}, *Igk-1*^{a}, *Lap-1*^{a}, *Mgd-1*^{b}, *Pep-3*^{a}, *Pg-1*^{a}, *Pgd*^{b}.

This strain carries a distinctive heteropyknotic Y chromosome that can be used as a cellular marker (Zieverink and Moloney, 1965).

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