Overview

Also Known As: SAMP1/Fc, SAMP1/YitFc
SAMP1/YitFcs mice develop a spontaneous ileitis that resembles human Crohn's disease. This strain may also be useful for the study of inflammatory bowel disease (IBD).

Donating Investigator
Marcia J McDuffie, University of Virginia Dept of Medicine

GENETIC OVERVIEW

Genetic Background: Generation
F7+F27
(2019-03-15 00:00:00)
RESEARCH APPLICATIONS
Immunology, Inflammation and Autoimmunity Research
Internal/Organ Research
Dermatology Research

BASE PRICE
Starting at:
$255.00 Domestic price for female 4-week

Details
Important Note
These SAMP1 mice have significant breeding difficulties. Please see the JAXMice Health & Husbandry section for the SAMP1 mice Colony Maintenance / Breeding & Husbandry description.

Detailed Description
SAMP1/YitFcs (also called SAMP1/YitFc or SAMP1/Fc) mice develop a spontaneous ileitis that is similar in many features to human Crohn's disease. Development of ileitis is accelerated by the presence of luminal bacteria and is characterized by discontinuous segmental inflammation involving the ileum while sparing the proximal small intestine and colon. The histopathologic features of SAMP1/Fc ileitis include transmural inflammation, crypt abscesses, and epithelial changes including loss of villi, crypt elongation, and crypt branching. SAMP1/Fc mice were originally distinguished from the strain from which they were derived (SAMP1/Yit) by spontaneous onset of ileum inflammation by 10 weeks of age at nearly 100% penetrance and the emergence of a perianal fistulizing disease not reported in the parental strain. Other distinguishing characteristics of the SAMP1/Fc substrain include incidence of skin lesions inversely correlated with the occurrence of intestinal inflammation, chronic ileitis with prominent muscular hypertrophy and focal collagen deposition in inflamed segments, activation of mesenteric lymph node lymphocytes coincident with ileitis progression, and high interferon-γ production preceding ileitis onset. Like other spontaneous models of inflammatory bowel disease, SAMP1/Fc mice maintained at higher health status/germ-free conditions may exhibit attenuated ileitis onset and severity compared to SAMP1/Fc mice maintained in lower health status/specific pathogen-free vivaria.

Development

Control Suggestions

Selected References

Genetics

Abcb1a<sup>mds</sup>

Disease/Phenotype
Breeding Considerations
When maintaining a live colony, SAMP1/YitFcJ inbred mice are bred together. These inbred mice have significant breeding difficulties. The donating investigator reports:
--it is best to maintain the colony in trio-matings
--approximately 33% of trio-matings are nonproductive
--approximately 33% of trio-matings will only produce one litter
--productive matings produce approximately 2 litters total with an average of 4.8 mice per wean
--if females are not pregnant by 6 weeks of breeding, that female is unlikely to produce any litters
--the donating investigator does not set up mating pens until the mice are at least eight weeks old; even with this delayed mating, litters may not be observed for a few months
--seasonal breeding slumps starting in January may further diminish colony breeding success.

Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling

Citation
When using the SAMP1/YitFc mouse strain in a publication, please include JAX stock #009355 in your Materials and Methods section.
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Related Products and Services

| Frozen Mouse Embryo | SAMP1/YitFcsJ Frozen Embryos | $2595.00 |

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