Also Known As:C57BL/6 TRAF

These TRAF1 mutant mice may be useful in studying negative regulation of tumor necrosis factor (TNF) signaling, NF-κB and AP-1 signaling, T cell receptor (TCR)-induced proliferation of T cells, Th2 responses, TRAF1/Bim function in CD8 memory T cell survival, allergic airway diseases and Rheumatoid arthritis, as well as the role of TRAF1 activation in the pathogenesis of lymphomas. Of note, TRAF1 mutant mice are available on either a BALB/c congenic (Stock No. 008074) or C57BL/6 congenic (Stock No. 008076) background.

Donating Investigator

Erdyni Tsitsikov, Immune Disease Institute (formerly CBRI)
Mice homozygous for the TRAF1 mutant allele (TRAF1<sup>−/−</sup>) are viable and fertile. No protein expression from the targeted gene is observed in CD40-stimulated splenocytes isolated from homozygous mice. Homozygous mice on a C57BL/6 congenic background (B6-TRAF1<sup>−/−</sup>) have abnormal memory T cell survival and impaired influenza virus CD8 T cell responses. Activated B6-TRAF1<sup>−/−</sup> T cells accumulate increased levels of proapoptotic BH3-only family member Bim, particularly the most toxic isoform, Bim<sub>β</sub>. The donating investigator reports that B6-TRAF1 mutant mice may be difficult to breed and gain more weight than BALB/c-TRAF1 mutant mice.

Homozygous mice on a BALB/c congenic background (BALB/c-TRAF1<sup>−/−</sup>) exhibit acute liver injury and elevated serum liver enzymes following intratracheal TNF-alpha treatment. Furthermore, activated TRAF1<sup>−/−</sup> T cells have significantly increased expression of Th2 cytokines (IL-4, IL-5 and IL-13) that elicit enhanced Th2 responses in vivo. BALB/c-TRAF1<sup>−/−</sup> T cells exhibit elevated nuclear expression of NFAT-interacting protein (NIP45) and also induce significantly more intense pulmonary inflammation and higher airway hyper-responsiveness in OVA allergic inflammation models. Pulmonary leukocyte recruitment is attenuated following inhalation of lipopolysaccharide in BALB/c-TRAF1<sup>−/−</sup> mice. TRAF1 strains may be useful in studying negative regulation of tumor necrosis factor (TNF) signaling, NF-kB and AP-1 signaling, T cell receptor (TCR)-induced proliferation of T cells, Th2 responses, TRAF1/Bim function in CD8 memory T cell survival, allergic airway diseases and Rheumatoid arthritis, as well as the role of TRAF1 activation in the pathogenesis of lymphomas.

Of note, TRAF1 mutant mice are available on either a BALB/c (Stock No. 008074) or C57BL/6 (Stock No. 008076) congenic background.

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.
Genotyping Protocols
Standard PCR: Traf1
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, these mice may be bred as homozygotes.

Additional Breeding and Husbandry Support

Citation
When using the B6.129S4-Traf1^{tm1Tsi}/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #008076 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200
Pricing & Availability

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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