Overview

Also Known As: Fut1/Fut2/Sec1 triple KO
Fut1, Fut2, Sec1 triple knockout mice have a complete deficiency of α 1,2 fucosyltransferase enzyme or H antigen. H antigen is the terminal fucose residue found on red blood cells and functions as a building block for the production of the A and B antigens within the ABO group. H antigen (h/h) deficiency, also known as the Bombay phenotype (h/h se/se), is a rare blood type. This strain may be useful for studying blood antigens and possible relationships to the gut microbiome and host-microbe interactions.

Donating Investigator
Dapeng Zhou, Tongji University

GENETIC OVERVIEW
Genetic Background

RESEARCH APPLICATIONS
Hematological Research

BASE PRICE
Starting at:

$255.00 Domestic price for female
$510.00 Domestic price for breeder pair

Fut1, Fut2, and Sec1 encode α 1,2 fucosyltransferases involved in the of synthesis fucose α(1,2) galactose (H antigen). H antigen is the terminal fucose residue found on red blood cells and functions as a building block for the production of the A and B antigens within the ABO group. H antigen (h/h) deficiency, also known as the Bombay phenotype (h/h se/se), is a rare blood type found in 1 of 8,000 people in Taiwan, 1 of 10,000 in India, and 1 per million in Europe. Fut1, Fut2, and Sec1 are found within a 77 kB region on chromosome 7 in mice. Fut1 is expressed on red blood cells, Fut2 and Sec1 (secretory blood group 1 or Fut3) are expressed in secretory glands and produce a soluble form of H antigen found in saliva and other body fluids.

Triple knockout homozygous Fut1, Fut2/Sec1 mice are viable, fertile and have a complete deficiency of α 1,2 fucosyltransferase enzyme. Mice exhibit a normal serum reactivity to ABO antigens. This strain may be useful for studying blood antigens and possible relationships to the gut microbiome and host-microbe interactions.
Genetics

Currently there are no related genes or alleles for this strain.

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols

Separated PCR: Del(7Fut2-Sec1)1Dzhou
Standard PCR: Fut1tm1Dzhou
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, these mice are bred by homozygote triple knock-out matings.

Additional Breeding and Husbandry Support

Mating System

HET HET x HET HET

Citation

When using the Fut1/Fut2/Sec1 triple KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #033577 in your Materials and Methods section.

Pricing & Availability

Available for Pre-order

Estimated to begin distribution on Aug 10, 2020
### Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Fut1(^{tm1Dzhou})</td>
<td>$255.00</td>
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<tr>
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<td>Wild-type for Fut1(^{tm1Dzhou})</td>
<td>$78.51</td>
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### Breeder Pair

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<td>Male</td>
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Related Strains

- All
- By Allele
- By Gene
- By Collection

All Related Strains