The Jackson Laboratory

CAST/EiJ

Stock No: **000928** | CAST

Inbred Strain, Wild-Derived

Sized to accommodate orders of up to 50 or more. Ask Customer Service for details.

PLACE ORDER

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Also Known As:CAST

Both CAST/EiJ and CASA/RkJ (Stock No. 000735) were derived from wild mice trapped in Thailand. Wild-derived mice are genetically distinct from common laboratory mice for a number of complex phenotypic characteristics and are valuable tools for genetic mapping, evolution and systematics research.

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GENETIC OVERVIEW

Genetic Background

Generation

Contact Technical Support
(2019-05-22 00:00:00)

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools
Metabolism Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$126.40 Domestic price for female 4-week

VIEW PRICE LIST

Details

Detailed Description

Both CAST/EiJ and CASA/RkJ (Stock No. 000735) were derived from wild mice trapped in Thailand. CAST is often combined with the common laboratory strains to generate F1 hybrids with high levels of heterozygosity for use in genetic mapping. Unlike the wild-derived strain SPRET, male F1 mice from a CAST cross are fertile.

Like CASA, CAST is resistant to flavivirus infection. The flavivirus family includes pathogens responsible for dengue, yellow fever and several forms of encephalitis. Most common laboratory mice are sensitive to flavivirus infection. Resistance/sensitivity is conferred through the oligoA synthase *Oas1b* locus. In a comparison of multiple strains, CASA and CAST exhibit reduced numbers of retinal ganglion cells as compared to common laboratory strains and other wild-derived strains. In a 2015 study comparing CAST/Ei and the other Collaborative Cross inbred strains (A/J, C3H/HeJ, C57BL/6J, DBA/2J, 129S1/SvlmJ, NOD/LtJ, NZO/HlLtJ, and WSB/EiJ), dorsal root ganglion neurons from CAST/Ei mice demonstrate a significantly improved ability to regenerate axons in an inhibitory environment as determined by an increase in number of neurons with neurites and longer axonal process per neuron under both naive and pre-injured conditions. In addition, as compared to neurons from C57BL/6 mice, CAST/Ei neurons exhibit more extensive axonal regeneration in the spinal cord and optic nerve following injury and show greater sprouting following ischemic stroke.

Wild-derived mice are genetically distinct from common laboratory mice for a number of complex phenotypic characteristics and are valuable tools for genetic mapping, evolution and systematics research.

In 2019-2020, researchers at The Jackson Laboratory discovered this inbred strain contains the *Trem2*^{S148E} allele - a naturally occurring variant at position 48351151-48351152 on Chr 17 (rs108080490 and rs107649577; Ensembl GRCm38.p6). This TC to GA transition results in a serine to glutamic acid substitution at amino acid 148 (S148E).

Development

Selected References

Genetics

- *Ahr*^{d}
- *Oas1b*$^{Flv\text{-}r}$
- *Cox7a2l*^{l}

Disease/Phenotype

- Disease Terms
- Research Areas By Phenotype
- Mammalian Phenotype Terms by Genotype
- Phenotype Information
- References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Standard PCR:GAL Control Validation
Genotyping resources and troubleshooting
Wild-derived inbred mouse strains are maintained through sibling (sister x brother) matings; no genotyping required.

Breeding Considerations

This strain is a challenging breeder.
Additional Breeding and Husbandry Support

Mating System

Sibling x Sibling

Appearance

agouti
Related Genotype: *A/A*

Citation

When using the CAST mouse strain in a publication, please include JAX stock #000928 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

AX4 (Standard)

Pricing & Availability

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LIVE MOUSE

AGE	SEX	PRICE
4 weeks	Female	$126.40
	Male	$126.40
5 weeks	Female	$126.40
	Male	$126.40
6 weeks	Female	$129.85
	Male	$129.85
7 weeks	Female	$133.30
	Male	$133.30
8 weeks	Female	$136.75
	Male	$136.75
9 weeks	Female	$140.20
10 weeks	Female	$143.65
11 weeks	Female	$147.10
12 weeks	Female	$150.55
13 weeks	Female	$154.00

RELATED PRODUCTS AND SERVICES

Mouse ES Cells	CAST/EiJ-WM078/GrsrJ cells	$995.00

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Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

THE JACKSON LABORATORY'S GENOTYPE PROMISE

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

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Email: TechTran@jax.org

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By Allele

By Gene

By Collection