

## BKSchpLt.HRS-Cpe<sup>fat</sup>/J

Stock No: 002391 | fat

 Congenic, Spontaneous Mutation

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

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primarily restricted to males.

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### GENETIC OVERVIEW

Genetic Background

Generation

000662 C57BLKS/J

*Cpe<sup>fat</sup>*

Alele Type

Gene Symbol

Gene Name

Spontaneous

*Cpe*

carboxypeptidase E

VIEW GENETICS

### RESEARCH APPLICATIONS

Reproductive Biology Research  
Diabetes and Obesity Research  
Endocrine Deficiency Research  
Internal/Organ Research  
Metabolism Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W   P R I C E   L I S T

## Details

### Detailed Description

Mice homozygous for the fat spontaneous mutation ( $Cpe^{fat}$ ) on a C57BLKS/J genetic background (N10) have a diabetes phenotype that is primarily restricted to males and is more severe than what is seen on the original HRS/J or C57BLKS/J (N5) genetic backgrounds. At weaning both males and female homozygous mutant mice were significantly lighter than wildtype or heterozygous littermates. Obesity develops between 6 and 8 weeks of age and mutant mice can be distinguished from wildtype littermates between 8 and 12 weeks of age. By 18 weeks fat mutant mice will reach 45-55 g and may reach 60-70 g by 6 months of age. Thus, the obesity is thus slower to develop than in the obese ( $Lep^{ob}$ ) and diabetes ( $Lep^{db}$ ) mutant mice. The excess adiposity is distributed throughout the body's fat stores, in contrast to the largely axial and inguinal fat deposition of the obese and diabetes mutant mice. Hyperinsulinemia is severe by 4 weeks of age and continues throughout life; it is associated with hypertrophy and hyperplasia of the islets of Langerhans. Male homozygotes backcrossed 10 generations to C57BLKS/J develop severe hyperglycemia after the development of gross obesity compared to a milder diabetic syndrome seen in males on a HRS/J or 5th generation backcross to C57BLKS. In contrast to obese and diabetes mutant mice on a C57BLKS background, glucose levels do not continue to rise but plateau around 400 - 600 mg/dL After 30 weeks of age plasma glucose levels of most male mutant mice are below 300 mg/dL despite continued weight gain and obesity. Most female mutant mice are resistant to development of hyperglycemia. Hyperglycemia is not associated with significant beta-cell necrosis or islet atrophy, occurs primarily in males. Homozygous fat mutant mice do not exhibit the hypercorticism characteristic of both obese and diabetes mutant mice. Proopiomelanocortin (POMC), the precursor of several neuroendocrine peptides that are ordinarily secreted in a regulated fashion, is misassorted to the constitutive secretory pathway in the pituitary intermediate lobe of fat mutant mice. Naggert *et al.* (1995) proposed that the obesity of fat homozygous mutant mice may reflect "defects in processing of prohormone forms of a variety of neuropeptides associated with the control of energy balance, nutrient partitioning and satiety."

### Development

### Control Suggestions

### Selected References

## Genetics

### $Cpe^{fat}$

## ⊖ Disease/Phenotype

[+ Disease Terms](#)

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[+ Research Areas By Phenotype](#)

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[+ Mammalian Phenotype Terms by Genotype](#)

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[+ Phenotype Information](#)

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[+ References](#)

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## ⊖ Technical Support

C O N T A C T   T E C H N I C A L   S U P P O R T

### Genotyping Protocols

Restriction Enzyme Digest: [Cpe](#)

End Point Analysis: [CpeEnd Point](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

This strain is maintained by mating heterozygous siblings as fat homozygous mutant mice are generally infertile. The genotype of progeny are determine by an allele specific PCR protocol (see Genetic Typing). Mice are maintained on a NIH-31 6% fat diet.

[Additional Breeding and Husbandry Support](#)

### Appearance

black, fat

Related Genotype:  $a/a$   $Cpe^{fat}/Cpe^{fat}$

black, lean

Related Genotype:  $a/a$   $Cpe^{fat}/+$  or  $a/a$   $+/+$

### Citation

When using the fat mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #002391 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



Cryo  
Recovery

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

### Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

#### CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
<a href="#">Cryo Recovery</a>	Heterozygous for Cpe<fat>	\$2,854.50

#### RELATED PRODUCTS AND SERVICES

<a href="#">Frozen Mouse Embryo</a>	BKSchpLt.HRS-Cpe<fat>/J	\$2595.00
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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.

## ➔ Terms Of Use

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## LICENSING INFORMATION

Phone: 207-288-6470

Email: [TechTran@jax.org](mailto:TechTran@jax.org)

### Related Strains

All

By Allele

By Gene

By Collection



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