

B6N.Cg-Sst^{tm2.1(cre)Zjh} /J

Stock No: **018973** | Sst-IRES-Cre

 Congenic, Targeted Mutation

Live mice available in varying quantities. Ask Customer Service for details.

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studying dendritic inhibitory interneurons such as Martinotti cells and Oriens-Lacunosum-Moleculare cells. While Sst-IRES-Cre was designed as a 3' knock-in allele, additional characterization indicates it has significantly diminished endogenous *Sst* expression - see details below. As such, researchers should consider using heterozygous AVP-IRES2-Cre-D mice and wildtype littermate controls in all their studies. Of note, the same Sst-IRES-Cre knock-in allele is also available on a C57BL/6J genetic background as Stock No. [028864](#).

Donating Investigator

IMR Colony, The Jackson Laboratory

Z. Josh Huang, Cold Spring Harbor Laboratory

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GENETIC OVERVIEW

Genetic Background

Generation

[N4pN3F7](#)
(2019-12-31 00:00:00)

Sst^{tm2.1(cre)Zjh}

Allele Type

Targeted (Recombinase-expressing, Knockdown)

Gene Symbol

Sst

Gene Name

somatostatin

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools
Neurobiology Research

BASE PRICE

Starting at:

\$255.00 Domestic price for female 4-week

333.51 Domestic price for breeder pair

VIEW PRICE LIST

Details

Detailed Description

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. The phenotype summarized below is for the parental line: Sst-IRES-Cre knock-in mice on a mostly C57BL/6;129S4 genetic background (Stock No. 013044). It should be noted that the phenotype of these C57BL/6NJ-congenic Sst-IRES-Cre knock-in mice (Stock No. 018973) could vary from that of the parental line from which it was derived. The phenotype below describes the parental line (Stock No. 013044).

The Sst-IRES-Cre knock-in allele (or SOM-IRES-Cre) has an internal ribosome entry site and Cre recombinase in the 3' UTR of the somatostatin locus (*Sst*). As such, the endogenous *Sst* promoter/enhancer elements direct *cre* expression to somatostatin-expressing neurons. While Sst-IRES-Cre was designed as a 3' knock-in allele, additional characterization indicates it has significantly diminished endogenous *Sst* expression - see details below. As such, researchers should consider using heterozygous AVP-IRES2-Cre-D mice and wildtype littermate controls in all their studies. When Sst-IRES-Cre mice are bred with mice containing *loxP*-flanked sequences, Cre-mediated recombination will result in deletion of the floxed sequences in the *Sst*-expressing cells in the offspring.

In 2010, the donating investigator of Stock No. 013044 reported Cre recombinase activity is specific and efficient; largely recapitulating the endogenous somatostatin expression pattern with efficient recombination. They reported Cre recombinase activity is observed in somatostatin positive neurons (including dendritic inhibitory interneurons such as Martinotti cells and Oriens-Lacunosum-Moleculare (O-LM) cells). The donating investigator did not examine *cre* expression in tissues other than brain. *Sst* expression from the Sst-IRES-Cre allele was not evaluated. They also reported that homozygous mice were viable, fertile and normal in size, with no gross physical abnormalities or behavioral abnormalities.

Although Sst-IRES-Cre was designed as a 3' knock-in allele, additional characterization indicates it has significantly diminished endogenous *Sst* expression. Specifically, in 2016, unpublished research using Stock No. 013044 reported the Sst-IRES-Cre allele had diminished *Sst* RNA expression, and homozygous mice had abnormal locomotor activity (reduced in males during circadian cycle active phase, increased in females by the end of circadian cycle active phase). Heterozygous mice had partial recovery of *Sst* expression and normal behavioral responses. Furthermore, the findings of another group confirmed Sst-IRES-Cre imparts an allele dosage-dependent knock-down of endogenous *Sst* expression [Viollet *et al.* 2017 Front Endocrinol (Lausanne) 8:131 (PMID:28674519)]. Researchers should consider using heterozygous Sst-IRES-Cre mice and wildtype littermate controls in their studies.

For characterization information of the Sst-IRES-Cre knock-in allele, see images at the Allen Institute for Brain Science website ([Sst-IRES-Cre images](#)).

If the recombinase activity pattern of this allele is further characterized by the Genetic Resource Science group at The Jackson Laboratory, such findings will be reported on the Mouse Genome Informatics (MGI) Allele Detail entry ([Sst^{tm2.1\(cre\)Zh}](#)). This same information would also be found searching the [MGI Recombinase Activity](#) database.

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[+ *Sst^{tm2.1\(cre\)Zjh}*](#)

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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
Separated PCR:[Sst Alternate1](#)
[Genotyping resources and troubleshooting](#)
Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

Mice were bred to C57BL/6NJ inbred mice (Stock No. [005304](#)) for many generations using a marker-assisted, speed congenic approach to generate this C57BL/6NJ-congenic strain. When maintaining the live congenic colony, homozygous mice may be bred together.

Researchers should consider using heterozygous Sst-IRES-Cre mice and wildtype littermate controls in their studies - please see strain description for more details.

Additional Breeding and Husbandry Support

Mating System

Wild-type x Heterozygote

Heterozygote x Wild-type

Citation

When using the Sst-IRES-Cre mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #018973 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX10 \(Standard\)](#)

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Available

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
4 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
5 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
5 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
6 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
6 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51

	SEX	Genotype	PRICE
7 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
7 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
8 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
8 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
9 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
9 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
10 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
10 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
11 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
11 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
12 weeks	Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
	Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}	\$255.00
12 weeks	Female	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51
	Male	Wild-type for Sst ^{tm2.1(cre)Zjh}	\$78.51

BREEDER PAIR			PRICE
SEX	GENOTYPE		PRICE
Female	Heterozygous for Sst ^{tm2.1(cre)Zjh}		\$333.51
Male	Wild-type for Sst ^{tm2.1(cre)Zjh}		
Female	Wild-type for Sst ^{tm2.1(cre)Zjh}		\$333.51
Male	Heterozygous for Sst ^{tm2.1(cre)Zjh}		

RELATED PRODUCTS AND SERVICES		
Frozen Mouse Embryo	B6N.Cg-Sst<tm2.1(cre)Zjh>/J	\$2595.00

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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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