

STOCK *Hopx*^{tm2.1(cre/ERT2)Joe} /J

Stock No: 017606 | *Hopx*^{ERC^{cre}}

Targeted Mutation

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

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activity is observed in intestinal epithelial stem cells.

Donating Investigator

Jonathan A Epstein, University of Pennsylvania

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GENETIC OVERVIEW

Genetic Background

Generation

?+F16
(2017-08-11 00:00:00)

Hopx^{tm2.1(cre/ERT2)Joe}

Alele Type

Targeted (Recombinase-expressing, Inducible)

Gene Symbol

Hopx

Gene Name

HOP homeobox

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Cancer Research

Internal/Organ Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$278.00 Domestic price for female 4-week

356.51 Domestic price for breeder pair

\$2,854.50 Domestic price Cryo Recovery

V I E W P R I C E L I S T

Details

Detailed Description

The Hopx^{ERCre} (or Hopx^{CreERT2}) allele harbors an internal ribosome entry site and a CreER^{T2} fusion protein in the 3' untranslated region of the HOP homeobox gene (*Hopx*). As such, CreER^{T2} expression is directed by endogenous *Hopx* promoter/enhancer elements. CreER^{T2} fusion gene activity is tamoxifen-inducible. When Hopx^{ERCre} mice are bred with mice containing *loxP*-flanked sequences, tamoxifen-inducible Cre-mediated recombination will result in deletion of floxed sequences in the *Hopx*-expressing cells of the offspring.

Mice homozygous for the Hopx^{ERCre} allele are expected to be viable and fertile, with *Hopx* expression levels similar to wildtype (although the donating investigator has not tested this to date [December 2011]). Cre recombinase activity is not observed prior to tamoxifen treatment. Following tamoxifen administration, Cre recombinase activity is observed in *Hopx*-expressing cells; including intestinal epithelial stem cells in the +4 niche. The donating investigator reports tamoxifen-inducible Cre recombinase activity recapitulates the endogenous *Hopx* expression pattern, but with variable efficiency of induction. No examples of ectopic CreER^{T2} induction in cells or tissues that do not express *Hopx* are reported. Repeated daily administration of tamoxifen appears to induce more efficient activation of Cre recombinase activity than a single dose.

These Hopx^{ERCre} mice may be useful in studying intestinal epithelial stem cells in the +4 niche (that differentiate into Paneth, goblet, neuroendocrine, and absorptive intestinal epithelial cell types), serum response factor (SRF)-dependent cardiac gene expression/development, *Hopx* transcriptional silencing as a cancer-specific event predicting tumor aggressiveness, and effector memory Th1 cell persistence. In addition, Hopx^{ERCre} mice may be used in conjunction with Lgr5-EGFP-IRES-CreERT2 mice (Stock No. 008875), a strain that expresses CreER^{T2} in small intestinal crypt base columnar cells, for investigating different sources of intestinal epithelial stem cells.

The Cre-ERT2 fusion protein consists of Cre recombinase fused to a triple mutant form of the human estrogen receptor which does not bind its natural ligand (17β-estradiol) at physiological concentrations but will bind the synthetic estrogen receptor ligands 4-hydroxytamoxifen (OHT or tamoxifen) and, with lesser sensitivity, ICI 182780. Restricted to the cytoplasm, Cre-ERT2 can only gain access to the nuclear compartment after exposure to tamoxifen. To counteract the mixed estrogen agonist effects of tamoxifen injections, which can result in late fetal abortions in pregnant mice, progesterone may be coadministered.

Development

Expression Data

Control Suggestions

[+ Selected References](#)

[- Genetics](#)

[+ *Hopx*^{tm2.1\(cre/ERT2\)Joe}](#)

[- Disease/Phenotype](#)

[+ Disease Terms](#)

[+ Research Areas By Phenotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- 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

Separated MCA:[Hopx](#)

Separated PCR:[Hopx](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together or to wildtype siblings. Homozygous mice are expected to be viable and fertile (the donating investigator has not attempted to make homozygous mice to date [December 2011]).

[Additional Breeding and Husbandry Support](#)

Mating System

Wild-type x Heterozygote

Heterozygote x Wild-type

Citation

When using the Hopx^{ERTCre} mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017606 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX9 \(Standard\)](#)

🔵 Pricing & Availability



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

Available

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
4 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
5 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
5 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
6 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
6 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
7 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
7 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
8 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
8 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51

	SEX	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
9 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
9 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
10 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
10 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
11 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
11 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
12 weeks	Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
	Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}	\$278.00
12 weeks	Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51
	Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}	\$78.51

BREEDER PAIR			
SEX	GENOTYPE		PRICE
Female	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}		\$356.51
Male	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}		
Female	Wild-type for Hopx ^{tm2.1(cre/ERT2)Joe}		\$356.51
Male	Heterozygous for Hopx ^{tm2.1(cre/ERT2)Joe}		

CRYORECOVERY - DOMESTIC PRICING		
SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Hopx ^{tm2.1(cre/ERT2)Joe}	\$2,854.50

RELATED PRODUCTS AND SERVICES		
Frozen Mouse Embryo	STOCK Hopx ^{tm2.1(cre/ERT2)Joe} /J	\$2595.00

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