The Jackson Laboratory

B6.129P2(Cg)-*Foxg1* $^{tm1(cre)Skm}$/J

Stock No: **006084** | Foxg1-Cre knock-in/knock-out

Congenic, Targeted Mutation

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

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Cre-mediated recombination is expressed in the telencephalon, anterior optic vesicle, otic vesicle, facial and head ectoderm, olfactory epithelium, mid-hindbrain junction and pharyngeal pouches. These mice may be useful in studies of telencephalic development.

Donating Investigator

IMR Colony, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background	Generation

Foxg1$^{tm1(cre)Skm}$

Allele Type	Gene Symbol	Gene Name
Targeted (Recombinase-expressing, Null/Knockout)	*Foxg1*	forkhead box G1

VIEW GENETICS

RESEARCH APPLICATIONS

Developmental Biology Research
Neurobiology Research
Sensorineural Research
Research Tools

VIEW ALL RESEARCH APPLICATION

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

These Foxg1-Cre knock-in/knock-out mice express Cre recombinase from the endogenous *Foxg1* locus. Forkhead box G1 is required for telencephalon development and is expressed specifically in the telencephalon and discrete head structures. When crossed with a strain containing *loxP* site flanked sequence of interest, Cre-mediated recombination results in tissue-specific deletion of the target. Recombination occurs in the telencephalon, anterior optic vesicle (developing lens and retina), otic vesicle, facial and head ectoderm, olfactory epithelium, mid-hindbrain junction and pharyngeal pouches. See below for additional Cre expression.

Mice that are homozygous for the targeted mutation die perinatally. Heterozygous mutant mice are viable, fertile, normal in size. On this C57BL/6 background, forebrain volume in heterozygotes is substantially reduced especially in the cerebral cortex (40.7%), striatum (29.7%), and hippocampus (18.6%). In the adult, the thalamus is reduced in volume by 21.6%. This mutant mouse strain represents a model that may be useful in studies of telencephalic development.

Luo *et al.* 2020 Neuron 106:37 Table 1 shows germline recombination in offspring (F2) of Cre;floxed double mutant (F1) mice bred to floxed and/or wildtype mice. The authors also note that in general, the frequency of recombination in Cre;floxed double mutant germline cells appears to be considerably higher than in zygotes produced by breeding Cre mice to floxed mice.
This reports that Foxg1-Cre;floxed double mutant males bred to witdtype females produced some offspring with germline deletion of the floxed allele [68.8% (11/16)]. Female germline expression was not determined. As such, for Cre-lox experiments and to avoid/minimize germline deletion of the floxed allele, researchers may consider breeding Foxg1-Cre females to floxed males.

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. This same information may also be found searching the MGI Recombinase Activity and MGI Gene Expression + Recombinase Activity Comparison Matrix.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Foxg1$^{tm1(cre)Skm}$

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Separated PCR:Foxg1
Separated PCR:Foxg1alternate2
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, these mice are bred as heterozygotes.

For Cre-lox experiments and to avoid/minimize germline deletion of the floxed allele, researchers may consider breeding Foxg1-Cre females to floxed males. See Detailed Description for more details.

Additional Breeding and Husbandry Support

Mating System

Wild-type x Heterozygote
Heterozygote x Wild-type

Citation

When using the Foxg1-Cre knock-in/knock-out mouse strain in a publication, please cite the originating article(s) and include JAX stock #006084 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
Cryo Recovery	Heterozygous or Wild-type for Foxg1<tm1(cre)Skm>	$2,854.50

RELATED PRODUCTS AND SERVICES		
Frozen Mouse Embryo	B6.129P2(Cg)-Foxg1<tm1(cre)Skm>/J Frozen Embryo	$2595.00

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