

STOCK *Hhat*^{Tg(TFAP2A-cre)1Will} /J

Stock No: **023407** | AP-2CRE

 Transgenic

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

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promoter/enhancer elements, and a polyadenylation sequence followed by parts of exons 5-6 of *Tfap2a*, encoding the frontonasal prominence (FNP) and limb enhancer elements. This transgene integrated into intron 9 of the hedgehog acyltransferase (*Hhat*) gene, abolishing *Hhat* gene function. These mice may be useful for studying craniofacial development.

Donating Investigator

Trevor Williams, University of Colorado, Denver

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GENETIC OVERVIEW

Genetic Background

Generation

Hhat^{Tg(TFAP2A-cre)1Will}

Alele Type

Transgenic (Recombinase-expressing, Null/Knockout)

VIEW GENETICS

RESEARCH APPLICATIONS

Developmental Biology Research

Neurobiology Research

Research Tools

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

These *Creface* transgenic mice express Cre recombinase under the control of the human transcription factor AP-2, alpha (*Tfap2a*) promoter/enhancer elements. A polyadenylation sequence followed by parts of exons 5-6 of *Tfap2a*, encoding the frontonasal prominence (FNP) and limb enhancer elements, was inserted downstream of the *cre* sequence. AP-2alpha is a transcription factor expressed in the neural tube, and in cranial and cardiac neural crest cells in the developing embryo, as well as in the progress zone of the limb bud, the developing kidney, the eye, and surface ectoderm. The transgene was found to have integrated into intron 9 of the hedgehog acyltransferase (*Hhat*) gene, abolishing *Hhat* gene function. HHAT deficiency has been associated with holoprosencephaly, failure of the forebrain to bifurcate, together with acrania and agnathia. Hemizygous mice are viable and fertile, while homozygotes are embryonic lethal. These mutants lack *Hhat* activity resulting in craniofacial development defects evident between E14.5 and E17.5. Homozygous embryos exhibit abnormal morphology of the frontonasal, mandibular, and maxillary processes. They also exhibit defects in the development of the cranium, eye, nasal cavity and septum, mouth, and palates. Neural crest morphology is also altered, as is midbrain and forebrain morphology. Expression of cre recombinase was detected in the embryonic face and limb mesenchyme. When crossed with a strain containing a *loxP* site-flanked sequence, Cre-mediated recombination results in deletion of the flanked sequence in cre-expressing cells.

For example, when bred to STOCK *Tfap2a*^{tm2Will}/J mice (Stock No. [023406](#)) expressing a floxed-*Tfap2a* gene, frontonasal knockout (FKO) mice exhibit midfacial growth anomalies including shortened snouts and wide-set eyes by postnatal day 15.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Hhat^{Tg(TFAP2A-cre)}1Will

– 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

Standard PCR:[Hhat](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred to wildtype (non-carrier) mice from the colony. Homozygous mice are embryonic lethal.

[Additional Breeding and Husbandry Support](#)

Citation

When using the AP-2CRE mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #023407 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



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

DomesticInternational

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Hhat<Tg(TFAP2A-cre)1Will>	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	STOCK Hhat<Tg(TFAP2A-cre)1Will>/J Frozen Embryo	\$2595.00
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