

**B6;129-Six2<sup>tm3(EGFP/cre/ERT2)Amc</sup>/J**

Stock No: **009600**

 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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same cells only following tamoxifen administration. These Six2<sup>GCE</sup> mice may be useful for lineage-tracing/markings Six2-expressing cells for studying multipotent nephron progenitor cell populations throughout kidney organogenesis.

### Donating Investigator

Andrew P McMahon, University of Southern California

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## GENETIC OVERVIEW

Genetic Background

Generation

*Six2<sup>tm3(EGFP/cre/ERT2)Amc</sup>*

### Alele Type

Targeted (Recombinase-expressing, Reporter, Inducible)

### Gene Symbol

*Six2*

### Gene Name

sine oculis-related homeobox 2

VIEW GENETICS

## RESEARCH APPLICATIONS

Developmental Biology Research

Research Tools

Cancer 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

While heterozygous mice are viable and fertile with no reported abnormalities, homozygous mice die shortly after birth. The  $Six2^{GCE}$  "knock-in" allele both abolishes *Six2* gene function and expresses an eGFP $CreER^{T2}$  fusion protein (EGFP and creERT2 fusion protein) from the *Six2* promoter/enhancer elements. While EGFP immunofluorescence is observed in nephron progenitor population cap mesenchyme from the onset of metanephric kidney development, Cre-ERT2 fusion gene activity is inducible; observed in the same cells only following tamoxifen administration. As such, when  $Six2^{GCE}$  mice are bred with mice containing *loxP*-flanked sequence, tamoxifen-inducible, Cre-mediated recombination will result in deletion of the floxed sequences in the *Six2*-expressing cells of the offspring.

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 ( $17\beta$ -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

#### $Six2^{tm3(EGFP/cre/ERT2)Amc}$

### 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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[+ 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

Probe:[Generic Cre Probe](#)

Standard PCR:[Generic Cre Melt Curve Analysis](#)

Standard PCR:[Generic Neo](#)

Separated PCR:[Six2 Alternate4](#)

Probe:[Generic Neo](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together or to wildtype siblings. Homozygous mice die shortly after birth.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the B6;129-*Six2*<sup>tm3(EGFP/cre/ERT2)Amc</sup>/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #009600 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.

## CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
<a href="#">Cryo Recovery</a>	Heterozygous or wildtype for Six2<tm3(EGFP/cre/ERT2)Amc>	\$2,854.50

## RELATED PRODUCTS AND SERVICES

<a href="#">Frozen Mouse Embryo</a>	B6;129-Six2<tm3(EGFP/cre/ERT2)Amc>/J Frozen Embryo	\$2595.00
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Phone: 207-288-6470

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

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