Overview

Also Known As: BRaf\textsuperscript{CA}, BRAF\textsuperscript{F-V600E}

BRaf\textsuperscript{CA} is a knock-in allele of human BRaf which expresses normal BRaf prior to Cre recombinase exposure. Cre-mediated recombination results in the BRaf\textsuperscript{VE} allele, which expresses the constitutively active BRAF\textsuperscript{V600E} mutant protein. In conjunction with Cre-expressing mouse lines, these BRaf\textsuperscript{CA} mice may be useful in studies of human malignancies, as well as for studying the RAS-activated RAF/MEK/ERK mitogen-activated protein kinase signaling pathway and pleiotropic regulators of the aberrant cancer cell physiology.

Donating Investigator

IMR Colony, The Jackson Laboratory
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>?F12pN1F10</td>
<td>(2019-09-25 00:00:00)</td>
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</table>

**Braf<sup>tm1Mmcm</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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</thead>
<tbody>
<tr>
<td>Targeted (Conditional ready (e.g. floxed), No functional change)</td>
<td>Braf</td>
<td>Braf transforming gene</td>
</tr>
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</table>

RESEARCH APPLICATIONS

- Cell Biology Research
- Cancer Research
- Research Tools
- Immunology, Inflammation and Autoimmunity Research

BASE PRICE

Starting at:

$278.00 Domestic price for female 4-week

Details

**Detailed Description**

Mice homozygous for the Cre-activated BRaf mutant allele (BRaf<sup>CA</sup>) are viable and fertile. Mice express the transcript encoded by endogenous exons 1-14 and loxP-flanked human exons 15-18 (BRaf<sup>CA</sup>) prior to Cre recombinase exposure. Homozygous mice have “normal” BRaf expression, and no abnormalities are reported for homozygous BRaf<sup>CA</sup> mice.

Following Cre-mediated excision of the floxed sequences (human BRAF exons 15-18 and polyA signal), the transcripts are subsequently generated using the downstream mutant exon 15 (modified with a V600E amino acid substitution associated with constitutively active BRAF<sup>V600E</sup> in human cancers) and the endogenous downstream exons 16-18. The resulting BRaf<sup>VE</sup> transcripts are subject to normal patterns of alternate splicing and differential exon usage, and BRaf<sup>VE</sup> expression is observed at physiological levels. To discriminate the expression of the various BRaf mRNAs in heterozygous mice, silent restriction enzyme polymorphisms were
incorporated into the exon 15 sequences of \(\text{BRaf}^{CA}\) (BamHI) and \(\text{BRaf}^{VE}\) (XbaI).

For example, when crossed to a strain expressing tamoxifen-inducible Cre recombinase (see Stock No. 017586), this mutant mouse strain may be useful in studies of lung tumors.

### Development

### Expression Data

### Control Suggestions

### Selected References

### Genetics

* \(\text{Braf}^{\text{tm1Mcm}}\)

### Disease/Phenotype

### Disease Terms

### Research Areas By Genotype

### Mammalian Phenotype Terms by Genotype

### References

### Technical Support

#### Genotyping Protocols
- Standard PCR: \(\text{Braf}^{\text{tm1Mcm}}\)
- Standard PCR: \(\text{Braf}^{\text{tm1Mcm}}\)
- Genotyping resources and troubleshooting

#### Dietary Information
- New Diet as of March 2015: Lab Diet® 5K07 (6% fat)

#### Breeding Considerations
- When maintaining a live colony, these mice can be bred as homozygous for the \(\text{Braf}^{\text{tm1Mcm}}\) allele.

#### Additional Breeding and Husbandry Support

#### Mating System
- Homozygote x Homozygote
### Pricing & Availability

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

<table>
<thead>
<tr>
<th>Live Mouse</th>
<th>AGE</th>
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<th>GENOTYPE</th>
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<td></td>
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<td>Homozygous for Braf(^{tm1Mncm})</td>
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**Related Products and Services**

| Frozen Mouse Embryo | B6.129P2(Cg)-Braf\(^{tm1Mncm}\)/J | $2595.00 |
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Related Strains

- All
- By Allele
- By Gene
- By Collection

All Related Strains

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