

**B6.Cg-Kras<sup>tm4Tyj</sup> Apc<sup>tm1Tno</sup> Tg(CDX2-cre/ERT2)752Erf/MaraJ**

Stock No: **035169** | KPC:APC

 Congenic, Targeted Mutation, Transgenic

Estimated to begin distribution on Aug 23, 2021

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allele, the conditional *Apc*<sup>tm1Tno</sup> allele and a tamoxifen-inducible Cre recombinase (CDX2-Cre-ERT2) with Cre expression in adult epithelium of the distal intestinal tract. Mice develop malignant colonic tumors 25-30 days post tamoxifen induction.

### Donating Investigator

Dr. Radhashree Maitra, Albert Einstein College of Medicine

Dr. Sanjay Goel, Albert Einstein College of Medicine

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## GENETIC OVERVIEW

### Genetic Background

000664 C57BL/6J

### Generation

?+pN1  
(2020-10-12 00:00:00)

### *Kras*<sup>tm4Tyj</sup>

#### Alele Type

Targeted (Conditional ready (e.g. floxed), No functional change)

#### Gene Symbol

*Kras*

#### Gene Name

Kirsten rat sarcoma viral oncogene homolog

### Tg(CDX2-cre/ERT2)752Erf

#### Alele Type

Transgenic (Recombinase-expressing, Inducible)

### *Apc*<sup>tm1Tno</sup>

#### Alele Type

Targeted (Conditional ready (e.g. floxed), Hypomorph)

#### Gene Symbol

*Apc*

#### Gene Name

adenomatosis polyposis coli

## RESEARCH APPLICATIONS

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## BASE PRICE

Starting at:

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 \$255.00 Domestic price for female
 

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## Details

### Detailed Description

KPC:APC is an inducible mouse model of KRAS mutated colorectal cancer. The model combines a floxed *Kras*<sup>G12D</sup> allele that carries a point mutation (G12D) in; the Kirsten rat sarcoma viral oncogene homolog (*Kras*) gene whose expression is blocked by the presence of a *loxP*-flanked stop codon, an *Apc* (APC, WNT signaling pathway regulator) allele with floxed exon 14, and a tamoxifen inducible Cre recombinase (CDX2-Cre-ER<sup>T2</sup>) with a human caudal type homeo box 2 (*CDX2*) promoter/enhancer sequence directing expression of CreER<sup>T2</sup> fusion gene (a Cre recombinase fused to a human estrogen receptor ligand binding domain). Restricted to the cytoplasm, Cre-ER<sup>T2</sup> can only gain access to the nuclear compartment after exposure to tamoxifen. *Cre* expression is directed to epithelium of the distal ileum and cecum, and throughout the colon from the crypt base to the luminal surface. Mice heterozygous for *Kras*, homozygous for *Apc* and hemizygous for CDX2-Cre-ER<sup>T2</sup> are viable and fertile. Please note that in the homozygous state *Kras*<sup>tm41y</sup> is embryonic lethal. The donating investigator reports that *cre* expression is leaky in 10% of mice. Following tamoxifen induction, KPC:APC mice develop malignant colonic tumors with within 25-30 days (tamoxifen dose .1 mg/20 g weight). Extensive inflammation with multiple small tumors is observed in the cecum, ascending and transverse colon, and large bowel. Histological and molecular analysis of tumors indicates that they resemble human colorectal carcinoma. Mice live an average of 165 days, dying of cachexia and rectal bleeding. Untreated mice live an average 2 years, 10% of untreated mice develop rectal prolapse around 165 days, subsequently dying of cachexia and rectal bleeding.

### Development

### Expression Data

[+ Control Suggestions](#)

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[+ Selected References](#)

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## [- Genetics](#)

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[+ \*Kras<sup>tm4Tyj</sup>\*](#)

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[+ Tg\(CDX2-cre/ERT2\)752Erf](#)

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[+ \*Apc<sup>tm1Tno</sup>\*](#)

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## [- Disease/Phenotype](#)

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[+ 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

Standard PCR:[Tg\(CDX2-Cre/ERT2\)752Erf alternate2](#)

QPCR:[Generic Cre Quantitative PCR](#)

Standard PCR:[Apc](#)

[Genotyping resources and troubleshooting](#)

## Breeding Considerations

The strain is maintained as heterozygous for  $Kras^{tm4Tyj}$ , homozygous for  $Apc^{tm1Tno}$  and hemizygous for Tg(CDX2-cre/ERT2)752Erf. In the homozygous state,  $Kras^{tm4Tyj}$  is embryonic lethal.

### Additional Breeding and Husbandry Support

#### Mating System

Heterozygous for  $Kras^{tm4Tyj}$  homozygous for  $Apc^{tm1Tno}$  noncarrier for Tg(CDX2-cre/ERT2)752Erf x  
 Wildtype for  $Kras^{tm4Tyj}$  homozygous for  $Apc^{tm1Tno}$  homozygous  
 for Tg(CDX2-cre/ERT2)752Erf and reciprocal

#### Citation

When using the KPC:APC mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #035169 in your Materials and Methods section.

## Animal Health Reports

### Facility Barrier Level Descriptions

 [AX18 \(Maximum\)](#)

## ➔ Pricing & Availability



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Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE			
AGE	SEX	GENOTYPE	PRICE
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Approx 4-8 weeks	Female	Heterozygous for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Hemizygous for Tg(CDX2-cre/ERT2)752Erf	\$255.00
	Male	Heterozygous for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Hemizygous for Tg(CDX2-cre/ERT2)752Erf	\$255.00
Approx 4-8 weeks	Female	Heterozygous for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Noncarrier	\$255.00
	Male	Heterozygous for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Noncarrier	\$255.00
Approx 4-8 weeks	Female	Wild-type for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Homozygous for Tg(CDX2-cre/ERT2)752Erf	\$255.00
	Male	Wild-type for $Kras^{tm4Tyj}$ Homozygous for $Apc^{tm1Tno}$ Homozygous for Tg(CDX2-cre/ERT2)752Erf	\$255.00

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