



## CRISPR Cre-Rat with Pomc-CreERT2 Promoter

### Product Information

**Catalog Number** 553-1 (embryo); 553-2 (rat)

**Description Strain** Sprague Dawley rat

The Pomc-CreERT2 rat model was generated using CRISPR/Cas9 for use as a breeding mate for conditional knockout/ knock-in rat models. To achieve this, a pair of *in vivo* validated gRNAs, a single-stranded deoxyribonucleic acid (ssDNA) donor, and the Cas9 protein were injected into the mouse embryos. Mice born from the injection were screened by genotyping PCR and NGS/ Sanger sequencing to confirm founders (F0). The Cre rat line generated expresses Cre recombinase under the control of tissue specific gene promoter Pomc. Furthermore, DNA recombinase activity is induced by Tamoxifen, so that the Cre-Lox model can be both conditional and inducible.

### Description

Promotor Name	Technology	Tissue/Cell-specificity	Promotor Description	Comments	Reference
Pmoc-CreERT2	CRISPR/cas9	Neurons involved in the control of food intake (arcuate nucleus (hypothalamus) and solitary tract nucleus (hindbrain))	13-kb of 5' and 2 kb of 3' Pomc flanking sequences	n/a	Padilla et al 2011,  Young et al 1998

**Shipping** Embryos (dry ice) and Rats (cages)

**Storage and Stability** Store CRISPR Cre-Rat embryos in liquid nitrogen freezer immediately upon receipt. Store the plasmids and ganciclovir at -20°C. Do not freeze-thaw plasmids repeatedly. The products provided in this kit are stable for at least 6 months from the date of receiving when stored as directed.

**Safety Precaution** **PLEASE READ BEFORE HANDLING ANY FROZEN VIALS.** Please wear the appropriate Personal Protective Equipment (lab coat, thermal gloves, safety goggles and a face shield) when handling the cells. Handle the frozen vials with due caution. Please be aware that the following scenario can occur: Liquid nitrogen can leak into the vials when the vials are submerged in liquid nitrogen. Upon thawing, the liquid nitrogen returns to the gas phase, resulting in a dangerous build-up of pressure within the vial. This can result in the vial exploding and expelling not only the vial contents but also the vial cap and plastic fragments of the vial.

**Applied StemCell, Inc.**

521 Cottonwood Dr. #111, Milpitas, CA 95035

Phone: 866-497-4180 (US Toll Free); 408-773-8007 Fax: 408-773-8238

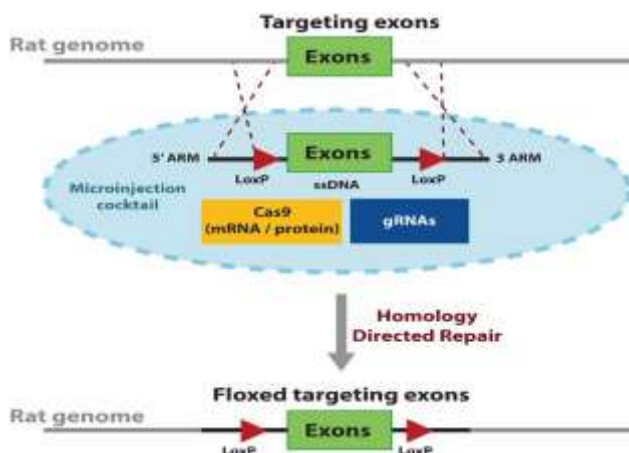
[info@appliedstemcell.com](mailto:info@appliedstemcell.com) [www.appliedstemcell.com](http://www.appliedstemcell.com)

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**Restricted Use**

This product is for research use only and not intended for human or animal diagnostic or therapeutic uses.

## Schematic Representation of CRISPR Cre-Rat Model



### Products:

Catalog#	Component	Amount	Available
553-1	CRISPR Cre-Rat Embryo – Pomc-CreERT2	1 straw	inquire
553-2	CRISPR Cre-Rat – Pomc-CreERT2	1 rat	inquire

### Supporting Validation Data\*

#### Summary of Available Validation Data

Limited validation data is available: The F0 mice were not mated with WT to ensure transmission of the cKO genotype to F1 generation.

\* Please inquire prior to purchasing.