

# SMOC Genetically Engineered Mouse Models for Studies of Cardiovascular Science

Cardiovascular disease is the leading cause of morbidity and death in the economically developed world. The genetically engineered mice have emerged as a powerful tool not only for understanding cardiovascularogenesis, but also for studying the pathogenesis of cardiac diseases through animal modeling. SMOC are providing a mouse model repository, consisting of tissue-specific Cre-driver mice and mouse models of cardio-metabolic disorders.



## Tissue-specific Cre-driver Mice

**Strain name:** Cdh5-2A-CreERT2

**Strain State:** Repository Live

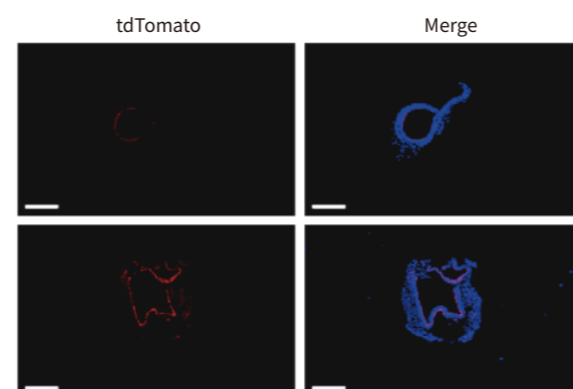
**Catalog No.:** NM-KI-200173

**Application:** Tamoxifen-induced Cre-driver mouse

CreERT2-mediated recombination in the aorta of Cdh5<sup>CreERT2/+</sup>; Rosa26<sup>tdTomato/+</sup> mouse. TdTomato (red) expression can be detected in the arterial endothelial cells of Cdh5<sup>CreERT2/+</sup>; Rosa26<sup>tdTomato/+</sup> mouse after tamoxifen treatment.

Cdh5<sup>CreERT2/+</sup>;  
Rosa26<sup>tdTomato/+</sup>  
+Corn oil

Cdh5<sup>CreERT2/+</sup>;  
Rosa26<sup>tdTomato/+</sup>  
+Tamoxifen



**Strain name:** Ly6a-2A-Cre

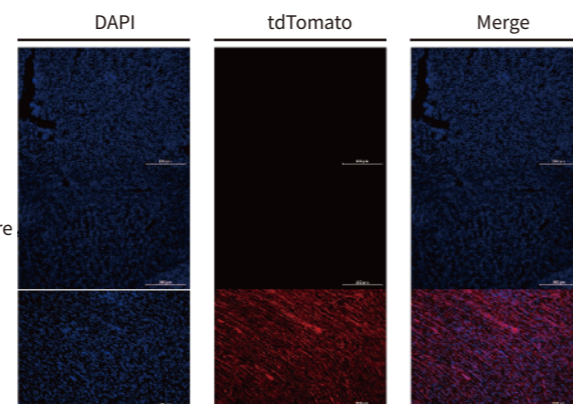
**Strain State:** Repository Live

**Catalog No.:** NM-KI-190028

**Application:** Tissue-specific Cre-driver Mouse

Cre mediated recombination in heart of Ly6a-iCre<sup>+/-</sup>; R26-tdTomato<sup>+/-</sup> mice. TdTomato (red) expression can be detected by histological fluorescence imaging in heart.

WT  
R26-tdTomato;  
Without Ly6a-iCre  
R26-tdTomato;  
With Ly6a-iCre



More inducible and noninducible tissue-specific Cre-driver mice are presented as follows. And contact us at [service.us@modelorg.com](mailto:service.us@modelorg.com) to search for more strains.

Strain Names	Catalog No.	Applications
NM-KI-18023	Tie1-2A-Cre	Endothelial-specific Cre-driver mouse
NM-KI-190028	Ly6a-2A-iCre	Endothelial-specific Cre-driver mouse
NM-KI-18048	Piezo1-CreERT2	Inducible Mechanosensitive ion channel Cre mouse
NM-KI-200173	Cdh5-2A-CreERT2	Inducible endothelial-specific Cre-driver mouse
NM-KI-00132	Aplnr-DreERT2	Cardiomyocyte-specific Dre-driver mouse
NM-KI-200152	Nkx2-5-IRES-Cre	Cardiac progenitor-specific Cre-driver mouse
NM-KI-200144	Tagln-Cre	Smooth muscle and Cardiomyocyte-specific Cre-driver mouse
NM-KI-200015	Tnnt2-CreERT2-Rox-tdTomato	Inducible cardiomyocyte-specific Cre-driver mouse
NM-KI-200014	Tnni3-CreERT2-Rox-tdTomato	Inducible cardiomyocyte-specific Cre-driver mouse
NM-KI-00013	Isl1-CreERT2	Inducible cardiac progenitor-specific Cre-driver mouse
NM-KI-200126	Isl1-iCre	Cardiomyocyte and limb progenitor-specific Cre-driver mouse
NM-KI-200177	Isl1-Dre	Cardiomyocyte and limb progenitor-specific Cre-driver mouse
NM-KI-200224	Myl2-Cre-IRES-EGFP	Cardiomyocyte-specific Cre-driver mouse
NM-KI-200199	Hcn4-DreER	Inducible atrionector-specific Dre-driver mouse
NM-KI-200227	Procr-CreERT2-2A-tdTomato	Inducible hematopoietic cell and endothelial-specific Cre-driver mouse
NM-KI-200165	Fgd5-mNeonGreen-2A-CreERT2	Inducible hematopoietic cell and endothelial-specific Cre-driver mouse
NM-KI-200105	Etv1-CreERT2	Inducible cardiomyocyte-specific Cre-driver mouse
NM-KI-190040	Kank1-2A-DreERT2	Inducible cardiomyocyte-specific Dre-driver mouse
NR-KI-210134	Tagln-(Cre)	Cardiomyocyte-specific Cre-driver mouse
NR-KI-210133	Tek-(Cre)	Hematopoietic cell and endothelial-specific Cre-driver mouse

## Mouse Models of Cardio-metabolic Disorders

In some cases, cardiovascular diseases are closely associated with metabolic disorders, such as, type 2 diabetes, which represent some of the most serious health challenges of the 21st century. To help to advance studies of cardio-metabolic disorders, we have developed a series of mouse models of cardio-metabolic disorders. Part of such mouse models are presented as follows. If you want to seek for more models of cardio-metabolic disorders, contact us at [service.us@modelorg.com](mailto:service.us@modelorg.com).

Strain Names	Catalog No.	Applications
Bag3-Flox	NM-CKO-2101856	Dilated cardiomyopathy 1HH
Cav1-KO	NM-KO-190930	Hypertrophic cardiomyopathy
Ar-Flox	NM-CKO-00110	Type 2 diabetes mellitus, obesity
Arntl-Flox	NM-CKO-200063	Diabetes mellitus
Cenpf-Flox	NM-CKO-220268	Dilated cardiomyopathy
Cox7a1-KO	NM-KO-201260	Dilated cardiomyopathy
Cenpf-Flox	NM-CKO-220268	Dilated cardiomyopathy
Cyp19A1-KO	NM-KO-2102244	Abdominal obesity-metabolic syndrome
Egln1-Flox	NM-CKO-2100497	Cardiomyopathy
G6pc-Flox	NM-CKO-200053	Glycogen storage disease I
Gbe1-KO	NM-KO-201282	Glycogen storage disease IV
Gucy2c-KO	NM-KO-200241	Obesity
Lep-KO	NM-KO-00034	Non-alcoholic fatty liver disease
Met-Flox	NM-CKO-200328	Gestational diabetes
Pd-1-KO	NM-KO-190423	Systemic lupus erythematosus

## Shanghai Model Organisms Center, Inc.

US Office: 56 Sugar Creek Center Blvd, Suite 375, Sugar Land, TX 77478  
[service.us@modelorg.com](mailto:service.us@modelorg.com) · [www.modelorg.us](http://www.modelorg.us)

