C57BL/6-Tg(CAG-RFP/EGFP/Map1lc3b)1Hill/J

Stock No: 027139 | CAG-RFP-EGFP-LC3

Available Now

PLACE ORDER

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

Overview
Also Known As: CAG-RFP-EGFP-LC3
CAG-RFP-EGFP-LC3 transgenic mice express RFP and EGFP in a pH-dependent manner in phagocytic cells following ischemic injury. They are useful for studying the initiation, progression, and resolution of autophagy in a variety of tissues following ischemic injury.

Donating Investigator
Joseph Hill, The University of Texas Southwestern Medical Center

GENETIC OVERVIEW
Genetic Background: Genetic Background
Generation: pN3
(2019-03-01 00:00:00)

Tg(CAG-RFP/EGFP/Map1lc3b)1Hill

Allele Type
Transgenic (Reporter, Inserted expressed sequence)

RESEARCH APPLICATIONS
Research Tools
Apoptosis Research

BASE PRICE
Starting at:
$255.00 Domestic price for female 4-week
333.51 Domestic price for breeder pair

Details

Detailed Description
CAG-RFP-EGFP-LC3 transgenic mice have CAG promoter/enhancer sequences driving expression of a red fluorescent protein (RFP), an enhanced green fluorescent protein (EGFP), and a microtubule-associated protein 1 light chain 3 alpha (Map1lc3a or LC3) gene. LC3 serves as a marker for phagosomes in a wide variety of tissues. The dual expression of two fluorophores allows tracking of
different types of phagocytic cellular compartments depending on the acidity of the environment. RFP is stable in acidic pH (pK_a 4.5) while EGFP (pK_a 5.9) is quenched in the acidic lysosomal environment, allowing autophagosomes to be distinguished from autolysosomes. Combined GFP and RFP fluorescence yields a yellow signal within high pH phagophores and autophagosomes, while EGFP is quenched in autolysosomes, and they emit only an RFP signal. Following ischemia-reperfusion injury, EGFP expression reaches a peak at 24 hours and returns to baseline levels at 3 days. Meanwhile, RFP expression also peaks at 24 hours but persists at high levels for 3 days before returning to baseline levels by 7 days. CAG-RFP-EGFP-LC3 mice are useful for studying the progression and recovery from ischemic injury in a variety of tissues. Hemizygotes are viable and fertile. The donating investigator did not try to make a homozygous colony.

Genotyping Protocols
MELT: Tg(CAG-RFP/EGFP/Map1lc3b)1Hill
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred with wildtype (non-carrier) mice from the colony. The donating investigator did not try to make the colony homozygous.

Additional Breeding and Husbandry Support
### Mating System
- Hemizygote x Noncarrier
- Noncarrier x Hemizygote

### Citation
When using the GAC-RFP-EGFP-LC3 mouse strain in a publication, please cite the originating article(s) and include JAX stock #027139 in your Materials and Methods section.

### AX18 (Maximum)

#### Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.

#### Domestic | International

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Breeder Pair

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Related Products and Services

| Frozen Mouse Embryo | $2,595.00 per straw or vial |

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Terms of Use

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Phone: 207-288-6470
Email: TechTran@jax.org

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By Allele

By Gene

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