Common Name: Rosa26(mIre1.WT.Cherry)
MGI Official Name: Rosa26(mIre1.WT.Cherry)Fpe
Description: This mouse line contains a bidirectional Tet0regulated fusion gene that has been inserted into a disabled Rosa26 loxed cassette acceptor allele by RMCE. In one direction the tetO/CMV promoter drives expression of a red fluorescent protein (Cherry) while in the other direction it drives a wild type mire1. mire1 is an endoplasmic reticulum (ER) membrane kinase response to unfolded protein response (UPR). Activated mire1 endonucleases leads to the splicing of XBP-1 (a transcription factor which is upregulated in times of ER stress) which transcriptionally increases the expression of ER chaperones and alleviates UPR. These mice may be useful for studying the role of mire1 in the response to ER stress in the setting of diet induced obesity and insulin resistance.

Categories: Fluorescent Probes

Genetic Alterations

1) RMCE Targeted Mutagenesis
Type of Allele: Cassette Acceptor
Targeted Gene: gene trap ROSA 26, Philippe Soriano (Gt(ROSA)26Sor - NCBI GeneID:14910)
Targeted Allele: targeted mutation 1 (Rosa26tm1(LCA) - MGI:104735)
Description of Targeting Vector: The Rosa 26 cassette acceptor allele was created by replacing a 5.165 kb region of this gene containing exon 1 with a floxed tk-neo cassette, a puromycin-delta-thymidine kinase fusion gene driven by the mouse phosphoglycerol kinase promoter (pU-deltaTK) and a neomycin resistant gene driven by the bacterial EM7 promoter (EM7neo) flanked by minimal (34 bp) tandemly oriented lox71 and lox2272 sites.

Targeting Vector Genbank File: pRosa26.LCA.gb
Recombinase-Mediated Cassette Exchange Stage
Type of Allele: Conditional Activating
Exchanged Cassette Gene: mire1.WT.Cherry
Exchanged Cassette Allele Name: Rosa26tm1(WT-Cherry)
Description of Exchange Vector: Not available
Exchange Vector Genbank File: phygro66.2272.rv.wt.mire1.cherry.gb

Citations

PubMedID: 21324933, 21324934
Citation: Quantification of factors influencing fluorescent protein expression using RMCE to generate an allelic series in the ROSA26 locus in mice. (2011) Dis Model Mech 4: 537-47 (Added 2012-09-24 16:36:23.369844)

Strain Information

Strain Type: Mixed
Chimera/Founder Genetic Background: 129S6/SvEvTac
Current Genetic Background: C57BL/6J (date recorded: Not provided)
Strain Description: Not provided

Associated Images

Image 1

Description: Not provided
Reference: Not provided

Repositories

Magnuson Lab
Stock #: MK BSID 0082
Availability Notes: Sperm cryo

Papa Lab
Stock #: FP4025-live
Availability Notes: Not provided

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Associated Publications

No publications associated

Comments
There are no comments for this entry.