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Rosa26^{3TF.Cherry} - ES Cell Line RES4074**ESC Line Information**

Cell Line Name:	Rosa26 ^{3TF.Cherry}
Parental Cell Line:	TL-1
Background Strain:	129
Culturing Protocol:	<i>Not provided.</i>
Description:	This ES cell line contains bidirectional TetO-regulated genes inserted into the Rosa26 ^{LCA} allele by RMCE. In one direction, the TetO/CMV promoter drives the expression of a polycistronic mRNA with transcription factors MafA, Pdx1, and Ngn3 linked by 2A peptide cleavage sequences. In the other direction, it drives the expression of the red fluorescent protein mCherry. In this cell line, when the effector protein rTA is expressed, all three transcription factors and mCherry will be over-expressed simultaneously upon administration of doxycycline.

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 (Rosa26 ^{m1(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	Not provided.
Exchanged Cassette Allele Name	mCherry/MafA/Pdx1/Ngn3
Description of Exchange Vector	The phygro66.2272.RV.mCherry.MafA.Pdx1.Ngn3 vector was made on a backbone of a basal exchange vector which contains Lox66/Lox2272 sites and a flrtd (flanked by FRT) P _{gk} -Hygro cassette that is used for positive selection of ES cells after RMCE. Bi-directional TetO-regulated genes, mCherry and three transcription factors (MafA, Pdx1, and Ngn3 linked by a 2A peptide cleavage sequence) were inserted between the P _{gk} -Hygro and Lox2272 sites.

Exchange Vector Genbank File: [phygro66.2272.RV.mCherry.MafA.Pdx1.Ngn3.gb](#)


Citations

PubMedID	Citation
21324933	Quantification of factors influencing fluorescent protein expression using RMCE to generate an allelic series in the ROSA26 locus in mice. (2011) <i>Dis Model Mech</i> 4: 537-47 (Added

Access Status

 This resource is publicly viewable.

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Primary contributor: [Magnuson Lab](#)
Co-contributed by:
• [BCBC Mouse / ES Cell Core](#)

Resource Tags


embryonic, es, esc, Rosa26^{3TF.Cherry}, stem, TL-1

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Resource History & Actions

Approved on Dec 21, 2011
Last modified on Apr 14, 2015

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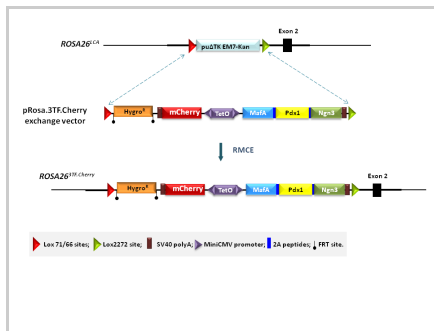
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Associated Images

Image 1




Description:
Not provided

Reference:
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Repositories

Magnuson Lab

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Stock #: *Not provided*
Availability Notes: *Not provided*

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Associated Publications

No publications associated

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