

This mouse line expresses mCherry, a red fluorescent protein, under control of the endogenous ROSA26 gene locus. This mouse was generated as part of a study to identify the optimal combination of regulatory elements for fluorescent protein expression from a single gene copy.

Keywords: [Rosa26](#) [R26.EN.Cherry.Neo](#) [mCherry](#) [RMCE](#) [RFP](#) [fluorescent reporter](#)

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Mouse Information

Common Name	Rosa26 ^{EN.Cherry.Neo}
Research Applications	Fluorescent proteins
MMRRC ID	036286-UCD
Jackson Laboratories Stock No	<i>Not provided</i>
VCMR ID	NI
Additional Strain Information	<i>Not provided</i>

Genetic Alteration


Mutation #1: RMCE Targeted Mutagenesis	
Type of Allele	Cassette Acceptor
Targeted Gene	Name: gene trap ROSA 26, Philippe Soriano Symbol: Gt(ROSA)26Sor NCBI: 14910
Allele	Name: targeted mutation 1 Symbol: Rosa26 ^{tm1(LCA)} MGI: MGI:5085307
Description of Targeting Vector	This mouse line contains a loxed cassette acceptor (LCA) allele in which a 5.17 kb region of the gene has been replaced by a lox71 site, a puromycin-(delta)-thymidine kinase fusion gene driven by the mouse phosphoglycerol kinase promoter, a kanamycin resistance gene driven by the bacterial EM7 promoter, and a lox2272 site. These features enable use of <i>Recombinase-Mediated Cassette Exchange</i> (RMCE) for the rapid insertion of various DNAs into the the Rosa26 gene locus.
Vector Genbank File	TargetVectorGenebankpRosa26.LCA.gb
Allele Map	<i>Not Provided</i>

PCR Genotyping Protocol	Not provided
Type of Allele	Gene Replacement
Exchanged Cassette Gene Name	()
Exchanged Cassette Allele Name	pRosa.EN.Cherry.bGspliceA.Neo
Description of Exchange Vector	Not Provided
Exchanged Cassette Genbank File	ExchangeVectorpRosa.EN.Cherry.bGspliceA.neo.gb
PCR Genotyping Protocol	Not provided
Citations	<p>Publication</p> <hr/> <p><u>Quantification of factors influencing fluorescent protein expression using RMCE to generate an allelic series in the ROSA26 locus in mice.</u> (2011) <i>Dis Model Mech</i> 4: 537-47 (Added 11/8/2013) PMID: 21324933</p> <hr/>

Background Strain Information

Strain Type	Mixed
Chimera/Founder Genetic Background	129S6/SvEvTac
Current Genetic Background	C57BL/6J
Number of Generations Backcrossed	2
Strain Description	This strain is of a mixed genetic background that is approximately 25% 129S6 and 75% C57BL6/J.

Attachment

 [LinearMapr26encherry.png](#) - Added on July 12, 2011 at 10:52 AM by [Jody Peters](#)

This figure shows how this line of mice was made. Coding sequences for a red (mCherry) fluorescent protein gene were inserted into an exchange cassette that allowed RMCE into a ROSA26 [LCA] allele. In this manner, mCherry is constitutively expressed under control of the endogenous ROSA26 promoter. The exchange plasmid also contains a 51bp translational enhancer (5' leader sequence from *Xenopus* beta-globin), a Kozak sequence upstream of the start codon, and intronic and polyA sequences from the rabbit beta-globin gene that confer stability to the mRNA.

