B6.129S6(FVB)-Rik$^{tm1.3Mgn}$

Rictor is an essential part of mTOR complex 2 (mTORC2). mTORC2 phosphorylates Ser473 of Akt/PKB. Eliminating this gene disrupts the function of mTORC2, thereby preventing growth factor mediated activation of Akt/PKB. Thus, these mice have utility for studying both the sites of expression and function of rictor.

Keywords: Rictor | Rictor^{lacZ} | lacZ

Expand

Mouse Information

Common Name	Rictor^{lacZ}
Research Applications	LacZ
MMRRC ID	015200-UCD
Jackson Laboratories Stock No	*Not provided*
VCMR ID	*Not provided*
Additional Strain Information	*Not provided*

Genetic Alteration

Mutation #1: Targeted Mutagenesis

Type of Allele	Global Null
Targeted Gene	Name: Rictor Symbol: 4921505C17Rik NCBI: 78757
Allele	Name: targeted mutation 1.3 Symbol: 4921505C17Rik^{tm2Mgn} MGI: MGI:3703325

Description of Targeting Vector	This knock-in (null) allele was made using a multi-allelic gene targeting strategy that involved the use of both FRT and loxP sites. After germline transmission a neoR cassette and exon 3 (which were flanked by loxP sites) were removed by mating to Ella-Cre transgenic mice, thereby generating mice containing the ric^{lacZ} allele. This ric^{lacZ} allele contains a lacZ-pA region flanked on the 5' side by a single (remnant) FRT site and on the 3' side by a single loxP site. Genotype by DNA PCR utilizing primers 5'-ATT GCA GCT TAT AAT GGT TAC AA-3' and 5'-GAC ACT GGA TTA CAG TGG CTT G-3'. These primers amplify a 295 bp ric^{lacZ} allele while primers 5'-ACT GAA TAT GTT CAT GGT TGT G-3' and 5'-GAA GTT ATT CAG ATG GCC CAG C-3' amplify a 466 bp ric wild type allele. Homozygous animals exhibit an embryonic lethal phenotype. Embryos exhibit growth arrest after E9.5 and die by E11.5. Heterozygous animals are viable and do not exhibit any obvious mutant phenotype.
Vector Genbank File	pGEM-Pia-Target.gb
Allele Map	*Not Provided*
PCR Genotyping Protocol	*Not provided*
Citations	**Publication** Multiallelic disruption of the rictor gene in mice reveals that mTOR complex 2 is essential for fetal growth and viability. (2006) *Dev Cell* **11**: 583-9 (Added 1/12/2012) PMID: 16962829

Background Strain Information

Strain Type	Congenic Strain
Chimera/Founder Genetic Background	129
Current Genetic Background	C57BL/6J
Number of Generations Backcrossed	6
Strain Description	A multiallelic gene targeting strategy was used to generate a $ric^{lacZ+neo}$ allele in mouse embryonic stem cells. After germline transmission both the neoR cassette and exon 3 were removed by mating to Ella-Cre transgenic mice, thereby generating mice that express the ric^{lacZ} allele. Ric^{lacZ} mice were subsequently bacakcrossed into a C57BL6/J background. This is a null allele.

Attachments

pia.lacz__wt_pcr_protocol.doc - Added on July 27, 2010 at 2:51 PM by Jill Lindner

PCR protocol for genotyping mice

Rictor_image.jpg - Added on July 19, 2010 at 10:17 AM by Mark Magnuson