

Rb1-Flox

Nomenclature	C57BL/6Smoc- <i>Rb1</i> ^{tm1(flox)Smoc}
Cat. NO.	NM-CKO-18012
Strain State	Repository Live

Gene Summary

Gene Symbol Rb1	Synonyms	Rb, pRb, Rb-1, pp105
	NCBI ID	19645
	MGI ID	97874
	Ensembl ID	ENSMUSG00000022105
	Human Ortholog	RB1

Model Description

These mice carry loxP sites flanking exon3 of Rb1 gene. When crossed with a Cre recombinase-expressing strain, this strain is useful in eliminating tissue-specific conditional expression of Rb1 gene.

Research Application: cancer research, aging

*Literature published using this strain should indicate: Rb1-Flox mice (Cat. NO. NM-CKO-18012) were purchased from Shanghai Model Organisms Center, Inc..

Disease Connection

Retinoblastoma	Phenotype(s)	MGI:3707432 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Rbl2-Flox(NM-CKO-200029) and Pax6-cre mice.
	Reference(s)	MacPherson D, Conkrite K, Tam M, Mukai S, Mu D, Jacks T, Murine bilateral retinoblastoma exhibiting rapid-onset, metastatic progression and N-myc gene amplification. EMBO J. 2007 Feb 7;26(3):784-94

retinoblastoma	Phenotype(s)	MGI:3783528 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Rbl2-Flox(NM-CKO-200029) and Nes-cre mice.
	Reference(s)	MacPherson D, Sage J, Kim T, Ho D, McLaughlin ME, Jacks T, Cell type-specific effects of Rb deletion in the murine retina. Genes Dev. 2004 Jul 15;18(14):1681-94
Osteosarcoma	Phenotype(s)	MGI:5796167 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Prkar1a-Flox(NM-CKO-2101183), P53-Flox(2)(NM-CKO-190067) and Col1a1-cre mice.
	Reference(s)	Chen Y, Di Grappa MA, Molyneux SD, McKee TD, Waterhouse P, Penninger JM, Khokha R, RANKL blockade prevents and treats aggressive osteosarcomas. Sci Transl Med. 2015 Dec 9;7(317):317ra197
osteosarcoma	Phenotype(s)	MGI:5796166 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Prkar1a-Flox(NM-CKO-2101183), P53-Flox(2)(NM-CKO-190067) and Col1a1-cre mice.
	Reference(s)	Chen Y, Di Grappa MA, Molyneux SD, McKee TD, Waterhouse P, Penninger JM, Khokha R, RANKL blockade prevents and treats aggressive osteosarcomas. Sci Transl Med. 2015 Dec 9;7(317):317ra197
Retinoblastoma	Phenotype(s)	MGI:3707433 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pax6-cre mice.
	Reference(s)	MacPherson D, Conkrite K, Tam M, Mukai S, Mu D, Jacks T, Murine bilateral retinoblastoma exhibiting rapid-onset, metastatic progression and N-myc gene amplification. EMBO J. 2007 Feb 7;26(3):784-94
Osteosarcoma	Phenotype(s)	MGI:5519094 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with P53-Flox(2)(NM-CKO-190067) and Sp7-tTA,tetO-EGFP/cre mice.
	Reference(s)	Walkley CR, Qudsi R, Sankaran VG, Perry JA, Gostissa M, Roth SI, Rodda SJ, Snay E, Dunning P, Fahey FH, Alt FW, McMahon AP, Orkin SH, Conditional mouse osteosarcoma, dependent on p53 loss and potentiated by loss of Rb, mimics the human disease. Genes Dev. 2008 Jun 15;22(12):1662-76

Pancreatic Carcinoma	Phenotype(s)	MGI:5662454 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with P53-Flox(2)(NM-CKO-190067) and Ren-cre mice.
	Reference(s)	Glenn ST, Jones CA, Sexton S, LeVea CM, Caraker SM, Hajduczok G, Gross KW, Conditional deletion of p53 and Rb in the renin-expressing compartment of the pancreas leads to a highly penetrant metastatic pancreatic neuroendocrine carcinoma. <i>Oncogene</i> . 2014 Dec 11;33(50):5706-15
Medulloblastoma	Phenotype(s)	MGI:3804216 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with P53-Flox(2)(NM-CKO-190067) and Gfap-cre mice.
	Reference(s)	Marino S, Vooijs M, van Der Gulden H, Jonkers J, Berns A, Induction of medulloblastomas in p53-null mutant mice by somatic inactivation of Rb in the external granular layer cells of the cerebellum. <i>Genes Dev</i> . 2000 Apr 15;14(8):994-1004

Validation Data

No data