

Cdkn2a-Flox(p19-Flox)

Nomenclature	C57BL/6Smoc- <i>Cdkn2a</i> ^{em1(flox)Smoc}
Cat. NO.	NM-CKO-200151
Strain State	Sperm cryopreservation

Gene Summary

Gene Symbol Cdkn2a	Synonyms	Arf; p16; MTS1; Pctr1; p19ARF; p16INK4a; p19; ARF-INK4a; INK4a-ARF; Ink4a/Arf; p16(INK4a)
	NCBI ID	12578
	MGI ID	104738
	Ensembl ID	ENSMUSG00000044303
	Human Ortholog	CDKN2A

Model Description

These mice carry loxP sites flanking exon 1 of Cdkn2a-p19ARF transcript.

Research Application: Research on protein metabolism and ERK signal transduction

*Literature published using this strain should indicate: Cdkn2a-Flox(p19-Flox) mice (Cat. NO. NM-CKO-200151) were purchased from Shanghai Model Organisms Center, Inc..

Disease Connection

Melanoma	Phenotype(s)	MGI:5603215 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Tyr-cre/ERT mice.
	Reference(s)	Huijbers IJ, Krimpenfort P, Chomez P, van der Valk MA, Song JY, Inderberg-Suso EM, Schmitt-Verhulst AM, Berns A, Van den Eynde BJ, An inducible mouse model of melanoma expressing a defined tumor antigen. Cancer Res. 2006 Mar 15;66(6):3278-86

melanoma	Phenotype(s)	MGI:4418448 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Tyr-cre/ERT2 mice.
	Reference(s)	Held MA, Curley DP, Dankort D, McMahon M, Muthusamy V, Bosenberg MW, Characterization of melanoma cells capable of propagating tumors from a single cell. Cancer Res. 2010 Jan 1;70(1):388-97
Alveolar Rhabdomyosarcoma	Phenotype(s)	MGI:3844659 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pax3-Flox(NM-CKO-2101872) and Myf6-Cre mice.
	Reference(s)	Keller C, Arenkiel BR, Coffin CM, El-Bardeesy N, DePinho RA, Capecchi MR, Alveolar rhabdomyosarcomas in conditional Pax3:Fkhr mice: cooperativity of Ink4a/ARF and Trp53 loss of function. Genes Dev. 2004 Dec 1;18(21):2614-26
Skin Melanoma	Phenotype(s)	MGI:5752239 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nras-Flox(NM-CKO-2100519), Stk11-Flox(2)(NM-CKO-200251) and Tyr-cre/ERT2 mice.
	Reference(s)	Burd CE, Liu W, Huynh MV, Waqas MA, Gillahan JE, Clark KS, Fu K, Martin BL, Jeck WR, Souroullas GP, Darr DB, Zedek DC, Miley MJ, Baguley BC, Campbell SL, Sharpless NE, Mutation-specific RAS oncogenicity explains NRAS codon 61 selection in melanoma. Cancer Discov. 2014 Dec;4(12):1418-29
skin melanoma	Phenotype(s)	MGI:5752235 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nras-Flox(NM-CKO-2100519) and Tyr-cre/ERT2 mice.
	Reference(s)	Burd CE, Liu W, Huynh MV, Waqas MA, Gillahan JE, Clark KS, Fu K, Martin BL, Jeck WR, Souroullas GP, Darr DB, Zedek DC, Miley MJ, Baguley BC, Campbell SL, Sharpless NE, Mutation-specific RAS oncogenicity explains NRAS codon 61 selection in melanoma. Cancer Discov. 2014 Dec;4(12):1418-29

Sarcoma	Phenotype(s)	MGI:5792147 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nf1-Flox(NM-CKO-200018) and Ad-Cre mice.
	Reference(s)	Dodd RD, Mito JK, Eward WC, Chitalia R, Sachdeva M, Ma Y, Barretina J, Dodd L, Kirsch DG, NF1 deletion generates multiple subtypes of soft-tissue sarcoma that respond to MEK inhibition. Mol Cancer Ther. 2013 Sep;12(9):1906-17
Pancreatic Ductal Adenocarcinoma	Phenotype(s)	MGI:5308951 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Kras-LSL-G12D(NM-KI-190003), P53-Flox(2)(NM-CKO-190067) and Pdx1-cre mice.
	Reference(s)	Bardeesy N, Aguirre AJ, Chu GC, Cheng KH, Lopez LV, Hezel AF, Feng B, Brennan C, Weissleder R, Mahmood U, Hanahan D, Redston MS, Chin L, Depinho RA, Both p16(Ink4a) and the p19(Arf)-p53 pathway constrain progression of pancreatic adenocarcinoma in the mouse. Proc Natl Acad Sci U S A. 2006 Apr 11;103(15):5947-52
Pancreatic Carcinoma	Phenotype(s)	MGI:5441554 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Kras-LSL-G12D(NM-KI-190003) and Pdx1-cre mice.
	Reference(s)	Singh M, Couto SS, Forrest WF, Lima A, Cheng JH, Molina R, Long JE, Hamilton P, McNutt A, Kasman I, Nannini MA, Reslan HB, Cao TC, Ho CC, Barck KH, Carano RA, Foreman O, Eastham-Anderson J, Jubb AM, Ferrara N, Johnson L, Anti-VEGF antibody therapy does not promote metastasis in genetically engineered mouse tumour models. J Pathol. 2012 Aug;227(4):417-30
Pancreatic Ductal Adenocarcinoma	Phenotype(s)	MGI:2687217 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Kras-LSL-G12D(NM-KI-190003) and Pdx1-cre mice.
	Reference(s)	Aguirre AJ, Bardeesy N, Sinha M, Lopez L, Tuveson DA, Horner J, Redston MS, DePinho RA, Activated Kras and Ink4a/Arf deficiency cooperate to produce metastatic pancreatic ductal adenocarcinoma. Genes Dev. 2003 Dec 15;17(24):3112-26

Melanoma	Phenotype(s)	MGI:4418449 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Ctnnb1-Flox(NM-CKO-200154), Pten-Flox(NM-CKO-18004) and Tyr-cre/ERT2 mice.
	Reference(s)	Held MA, Curley DP, Dankort D, McMahon M, Muthusamy V, Bosenberg MW, Characterization of melanoma cells capable of propagating tumors from a single cell. Cancer Res. 2010 Jan 1;70(1):388-97

Validation Data

No data