Braf-Flox

Nomenclature	C57BL/6Smoc-*Braf*$^{em1(flox)Smoc}$
Cat. NO.	NM-CKO-200073
Strain State	Repository Live

Gene Summary

Gene Symbol **Braf**	**Synonyms**	B-raf; Braf2; Braf-2; C87398; AA120551; AA387315; AA473386; C230098H17; D6Ertd631e; 9930012E13Rik
	NCBI ID	109880
	MGI ID	88190
	Ensembl ID	ENSMUSG00000002413
	Human Ortholog	BRAF

Model Description

These mice carry loxP sites flanking exon 5 of Braf gene. When crossed with a Cre recombinase-expressing strain, this strain is useful in eliminating tissue-specific conditional expression of Braf gene.

Research Application: Study on the correlation between meiosis and RET signal transduction in oocytes

*Literature published using this strain should indicate: Braf-Flox mice (Cat. NO. NM-CKO-200073) were purchased from Shanghai Model Organisms Center, Inc..

Disease Connection

Melanoma	**Phenotype(s)**	MGI:3843341 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Tyr-cre/ERT2 mice.
	Reference(s)	Dhomen N, Reis-Filho JS, da Rocha Dias S, Hayward R, Savage K, Delmas V, Larue L, Pritchard C, Marais R, Oncogenic Braf induces melanocyte senescence and melanoma in mice. Cancer Cell. 2009 Apr 7;15(4):294-303
Thyroid Gland Papillary Carcinoma	**Phenotype(s)**	MGI:5779643 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with TPO-cre mice.
	Reference(s)	Franco AT, Malaguarnera R, Refetoff S, Liao XH, Lundsmith E, Kimura S, Pritchard C, Marais R, Davies TF, Weinstein LS, Chen M, Rosen N, Ghossein R, Knauf JA, Fagin JA, Thyrotrophin receptor signaling dependence of Braf-induced thyroid tumor initiation in mice. Proc Natl Acad Sci U S A. 2011 Jan 25;108(4):1615-20
Thyroid Gland Papillary Carcinoma	**Phenotype(s)**	MGI:5780077 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Tg-cre/ERT2 mice.
	Reference(s)	Charles RP, Iezza G, Amendola E, Dankort D, McMahon M, Mutationally Activated BRAFV600E Elicits Papillary Thyroid Cancer in the Adult Mouse. Cancer Res. 2011 Jun 1;71(11):3863-71
Skin Melanoma	**Phenotype(s)**	MGI:5902132 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)	Dankort D, Curley DP, Cartlidge RA, Nelson B, Karnezis AN, Damsky WE Jr, You MJ, DePinho RA, McMahon M, Bosenberg M, Braf(V600E) cooperates with Pten loss to induce metastatic melanoma. Nat Genet. 2009 May;41(5):544-52

Prostate Cancer	**Phenotype(s)**	MGI:5543907 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Nkx3-1-Cre mice.
	Reference(s)	Wang J, Kobayashi T, Floc'h N, Kinkade CW, Aytes A, Dankort D, Lefebvre C, Mitrofanova A, Cardiff RD, McMahon M, Califano A, Shen MM, Abate-Shen C, B-Raf activation cooperates with PTEN loss to drive c-Myc expression in advanced prostate cancer. Cancer Res. 2012 Sep 15;72(18):4765-76
Langerhans-Cell Histiocytosis	**Phenotype(s)**	MGI:6192274 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Cd207-Cre mice.
	Reference(s)	Berres ML, Lim KP, Peters T, Price J, Takizawa H, Salmon H, Idoyaga J, Ruzo A, Lupo PJ, Hicks MJ, Shih A, Simko SJ, Abhyankar H, Chakraborty R, Leboeuf M, Beltrao M, Lira SA, Heym KM, Bigley V, Collin M, Manz MG, McClain K, Merad M, Allen CE, BRAF-V600E expression in precursor versus differentiated dendritic cells defines clinically distinct LCH risk groups. J Exp Med. 2014 Apr 7;211(4):669-83
Cardiofaciocutaneous Syndrome	**Phenotype(s)**	MGI:5902221 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with CAG-cre mice.
	Reference(s)	Inoue S, Moriya M, Watanabe Y, Miyagawa-Tomita S, Niihori T, Oba D, Ono M, Kure S, Ogura T, Matsubara Y, Aoki Y, New BRAF knockin mice provide a pathogenetic mechanism of developmental defects and a therapeutic approach in cardio-facio-cutaneous syndrome. Hum Mol Genet. 2014 Dec 15;23(24):6553-66

cardiofaciocutaneous syndrome	**Phenotype(s)**	MGI:6164161 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with CAG-cre mice.
	Reference(s)	Moriya M, Inoue S, Miyagawa-Tomita S, Nakashima Y, Oba D, Niihori T, Hashi M, Ohnishi H, Kure S, Matsubara Y, Aoki Y, Adult mice expressing a Braf Q241R mutation on an ICR/CD-1 background exhibit a cardio-facio-cutaneous syndrome phenotype. Hum Mol Genet. 2015 Dec 20;24(25):7349-60
Langerhans-Cell Histiocytosis	**Phenotype(s)**	MGI:6192275 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with CAG-cre mice.
	Reference(s)	Berres ML, Lim KP, Peters T, Price J, Takizawa H, Salmon H, Idoyaga J, Ruzo A, Lupo PJ, Hicks MJ, Shih A, Simko SJ, Abhyankar H, Chakraborty R, Leboeuf M, Beltrao M, Lira SA, Heym KM, Bigley V, Collin M, Manz MG, McClain K, Merad M, Allen CE, BRAF-V600E expression in precursor versus differentiated dendritic cells defines clinically distinct LCH risk groups. J Exp Med. 2014 Apr 7;211(4):669-83

Validation Data

No data