Trp53-Flox

Nomenclature	C57BL/6Smoc-*Trp53*$^{tm2(flox)Smoc}$
Cat. NO.	NM-CKO-18005
Strain State	Repository Live

Gene Summary

Gene Symbol Trp53	**Synonyms**	bbl; bfy; bhy; p44; p53; Tp53
	NCBI ID	22059
	MGI ID	98834
	Ensembl ID	ENSMUSG00000059552
	Human Ortholog	TRP53

Model Description

These Trp53 flox mice possess loxP sites flanking exons 5-7 via ESC targeting. When crossed with a Cre recombinase-expressing strain, this strain is useful in eliminating tissue-specific conditional expression of the gene.

Research Application: cancer research

*Literature published using this strain should indicate: Trp53-Flox mice (Cat. NO. NM-CKO-18005) were purchased from Shanghai Model Organisms Center, Inc..

Disease Connection

Medulloblastoma	**Phenotype(s)**	MGI:3652717 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Xrcc4-Flox(NM-CKO-2100799) and Nes-cre mice.
	Reference(s)	Yan CT, Kaushal D, Murphy M, Zhang Y, Datta A, Chen C, Monroe B, Mostoslavsky G, Coakley K, Gao Y, Mills KD, Fazeli AP, Tepsuporn S, Hall G, Mulligan R, Fox E, Bronson R, De Girolami U, Lee C, Alt FW, XRCC4 suppresses medulloblastomas with recurrent translocations in p53-deficient mice. Proc Natl Acad Sci U S A. 2006 May 9;103(19):7378-83
Breast Cancer	**Phenotype(s)**	MGI:5759821 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Wap-cre mice.
	Reference(s)	Wijnhoven SW, Zwart E, Speksnijder EN, Beems RB, Olive KP, Tuveson DA, Jonkers J, Schaap MM, van den Berg J, Jacks T, van Steeg H, de Vries A, Mice expressing a mammary gland-specific R270H mutation in the p53 tumor suppressor gene mimic human breast cancer development. Cancer Res. 2005 Sep 15;65(18):8166-73
Prostate Cancer	**Phenotype(s)**	MGI:5431978 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Tert-Flox(NM-CKO-2114953)，Pten-Flox(NM-CKO-18004) and Pbsn-cre mice.
	Reference(s)	Ding Z, Wu CJ, Jaskelioff M, Ivanova E, Kost-Alimova M, Protopopov A, Chu GC, Wang G, Lu X, Labrot ES, Hu J, Wang W, Xiao Y, Zhang H, Zhang J, Zhang J, Gan B, Perry SR, Jiang S, Li L, Horner JW, Wang YA, Chin L, DePinho RA, Telomerase reactivation following telomere dysfunction yields murine prostate tumors with bone metastases. Cell. 2012 Mar 2;148(5):896-907

Central Nervous System Cancer	**Phenotype(s)**	MGI:5771805 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Smarcb1-Flox(NM-CKO-190042) and GFAP-cre mice.
	Reference(s)	Ng JM, Martinez D, Marsh ED, Zhang Z, Rappaport E, Santi M, Curran T, Generation of a Mouse Model of Atypical Teratoid/Rhabdoid Tumor of the Central Nervous System through Combined Deletion of Snf5 and p53. Cancer Res. 2015 Nov 1;75(21):4629-39
Osteosarcoma	**Phenotype(s)**	MGI:5796167 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Rb1-Flox(NM-CKO-18012)，Prkar1a-Flox(NM-CKO-2101183) 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:5519094 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Rb1-Flox(NM-CKO-18012) 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 Rb1-Flox(NM-CKO-18012) 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. Oncogene. 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 Rb1-Flox(NM-CKO-18012) 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. Genes Dev. 2000 Apr 15;14(8):994-1004
Malignant Astrocytoma	**Phenotype(s)**	MGI:4840094 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004)，Nf1-Flox(NM-CKO-200018) and GFAP-cre mice.
	Reference(s)	Kwon CH, Zhao D, Chen J, Alcantara S, Li Y, Burns DK, Mason RP, Lee EY, Wu H, Parada LF, Pten haploinsufficiency accelerates formation of high-grade astrocytomas. Cancer Res. 2008 May 1;68(9):3286-94
Breast Cancer	**Phenotype(s)**	MGI:5752196 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Wap-cre mice.
	Reference(s)	Liu JC, Voisin V, Wang S, Wang DY, Jones RA, Datti A, Uehling D, Al-awar R, Egan SE, Bader GD, Tsao M, Mak TW, Zacksenhaus E, Combined deletion of Pten and p53 in mammary epithelium accelerates triple-negative breast cancer with dependency on eEF2K. EMBO Mol Med. 2014 Dec;6(12):1542-60
Thyroid Gland Carcinoma	**Phenotype(s)**	MGI:5897837 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and TPO-cre mice.
	Reference(s)	Antico Arciuch VG, Russo MA, Dima M, Kang KS, Dasrath F, Liao XH, Refetoff S, Montagna C, Di Cristofano A, Thyrocyte-specific inactivation of p53 and Pten results in anaplastic thyroid carcinomas faithfully recapitulating human tumors. Oncotarget. 2011 Dec;2(12):1109-26

Medulloblastoma	**Phenotype(s)**	MGI:5825466 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Nes-cre/ERT2 mice.
	Reference(s)	Zhu G, Rankin SL, Larson JD, Zhu X, Chow LM, Qu C, Zhang J, Ellison DW, Baker SJ, PTEN Signaling in the Postnatal Perivascular Progenitor Niche Drives Medulloblastoma Formation. Cancer Res. 2017 Jan 01;77(1):123-133
Breast Cancer	**Phenotype(s)**	MGI:5752193 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and MMTV-cre mice.
	Reference(s)	Liu JC, Voisin V, Wang S, Wang DY, Jones RA, Datti A, Uehling D, Al-awar R, Egan SE, Bader GD, Tsao M, Mak TW, Zacksenhaus E, Combined deletion of Pten and p53 in mammary epithelium accelerates triple-negative breast cancer with dependency on eEF2K. EMBO Mol Med. 2014 Dec;6(12):1542-60
Ovarian Cancer	**Phenotype(s)**	MGI:5704372 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Amhr2-Cre mice.
	Reference(s)	Kim J, Coffey DM, Ma L, Matzuk MM, The ovary is an alternative site of origin for high-grade serous ovarian cancer in mice. Endocrinology. 2015 Jun;156(6):1975-81
Urinary Bladder Cancer	**Phenotype(s)**	MGI:3844324 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Pten-Flox(NM-CKO-18004) and Adeno-cre mice.
	Reference(s)	Puzio-Kuter AM, Castillo-Martin M, Kinkade CW, Wang X, Shen TH, Matos T, Shen MM, Cordon-Cardo C, Abate-Shen C, Inactivation of p53 and Pten promotes invasive bladder cancer. Genes Dev. 2009 Mar 15;23(6):675-80

Osteosarcoma	**Phenotype(s)**	MGI:5781001 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Ptch1-Flox(NM-CKO-18015) and BGLAP-cre mice.
	Reference(s)	Chan LH, Wang W, Yeung W, Deng Y, Yuan P, Mak KK, Hedgehog signaling induces osteosarcoma development through Yap1 and H19 overexpression. Oncogene. 2014 Oct 2;33(40):4857-66
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)), Rb1-Flox(NM-CKO-18012) 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:5796169 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Prkar1a-Flox(NM-CKO-2101183)) 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
Alveolar Rhabdomyosarcoma	**Phenotype(s)**	MGI:3844657 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

Glioblastoma	**Phenotype(s)**	MGI:3849179 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nf1-Flox(NM-CKO-200018) and GFAP-cre mice.
	Reference(s)	Wang Y, Yang J, Zheng H, Tomasek GJ, Zhang P, McKeever PE, Lee EY, Zhu Y, Expression of mutant p53 proteins implicates a lineage relationship between neural stem cells and malignant astrocytic glioma in a murine model. Cancer Cell. 2009 Jun 2;15(6):514-26
Malignant Astrocytoma	**Phenotype(s)**	MGI:4840090 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nf1-Flox(NM-CKO-200018) and GFAP-cre mice.
	Reference(s)	Kwon CH, Zhao D, Chen J, Alcantara S, Li Y, Burns DK, Mason RP, Lee EY, Wu H, Parada LF, Pten haploinsufficiency accelerates formation of high-grade astrocytomas. Cancer Res. 2008 May 1;68(9):3286-94
malignant astrocytoma	**Phenotype(s)**	MGI:4840095 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Nf1-Flox(NM-CKO-200018) and GFAP-cre mice.
	Reference(s)	Kwon CH, Zhao D, Chen J, Alcantara S, Li Y, Burns DK, Mason RP, Lee EY, Wu H, Parada LF, Pten haploinsufficiency accelerates formation of high-grade astrocytomas. Cancer Res. 2008 May 1;68(9):3286-94
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), Cdkn2a-Flox(2)(NM-CKO-200151) 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:4940096 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Kras-LSL-G12D(NM-KI-190003)，Brca2-Flox(NM-CKO-200014) and Pdx1-cre mice.
	Reference(s)	Skoulidis F, Cassidy LD, Pisupati V, Jonasson JG, Bjarnason H, Eyfjord JE, Karreth FA, Lim M, Barber LM, Clatworthy SA, Davies SE, Olive KP, Tuveson DA, Venkitaraman AR, Germline Brca2 heterozygosity promotes Kras(G12D) -driven carcinogenesis in a murine model of familial pancreatic cancer. Cancer Cell. 2010 Nov 16;18(5):499-509
pancreatic carcinoma	**Phenotype(s)**	MGI:5635880 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)	Masso-Valles D, Jauset T, Serrano E, Sodir NM, Pedersen K, Affara NI, Whitfield JR, Beaulieu ME, Evan GI, Elias L, Arribas J, Soucek L, Ibrutinib exerts potent antifibrotic and antitumor activities in mouse models of pancreatic adenocarcinoma. Cancer Res. 2015 Apr 15;75(8):1675-81
Pancreatic Ductal Adenocarcinoma	**Phenotype(s)**	MGI:4941336 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)	Hingorani SR, Wang L, Multani AS, Combs C, Deramaudt TB, Hruban RH, Rustgi AK, Chang S, Tuveson DA, Trp53R172H and KrasG12D cooperate to promote chromosomal instability and widely metastatic pancreatic ductal adenocarcinoma in mice. Cancer Cell. 2005 May;7(5):469-83
pancreatic ductal adenocarcinoma	**Phenotype(s)**	MGI:5308946 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)	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 ductal adenocarcinoma	**Phenotype(s)**	MGI:6505560 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)	Poulin EJ, Bera AK, Lu J, Lin YJ, Strasser SD, Paulo JA, Huang TQ, Morales C, Yan W, Cook J, Nowak JA, Brubaker DK, Joughin BA, Johnson CW, DeStefanis RA, Ghazi PC, Gondi S, Wales TE, Iacob RE, Bogdanova L, Gierut JJ, Li Y, Engen JR, Perez-Mancera PA, Braun BS, Gygi SP, Lauffenburger DA, Westover KD, Haigis KM, Tissue-Specific Oncogenic Activity of KRAS(A146T). Cancer Discov. 2019 Jun;9(6):738-755
Squamous Cell Carcinoma	**Phenotype(s)**	MGI:5298084 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Kras-LSL-G12D(NM-KI-190003) and KRT14-cre/ERT mice.
	Reference(s)	Lapouge G, Youssef KK, Vokaer B, Achouri Y, Michaux C, Sotiropoulou PA, Blanpain C, Identifying the cellular origin of squamous skin tumors. Proc Natl Acad Sci U S A. 2011 May 3;108(18):7431-6
Thyroid Gland Cancer	**Phenotype(s)**	MGI:5784771 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Hras-Flox(NM-CKO-2117376) and TPO-cre mice.
	Reference(s)	Garcia-Rendueles ME, Ricarte-Filho JC, Untch BR, Landa I, Knauf JA, Voza F, Smith VE, Ganly I, Taylor BS, Persaud Y, Oler G, Fang Y, Jhanwar SC, Viale A, Heguy A, Huberman KH, Giancotti F, Ghossein R, Fagin JA, NF2 Loss Promotes Oncogenic RAS-Induced Thyroid Cancers via YAP-Dependent Transactivation of RAS Proteins and Sensitizes Them to MEK Inhibition. Cancer Discov. 2015 Nov;5(11):1178-93

Glioblastoma	**Phenotype(s)**	MGI:3849178 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with GFAP-cre mice.
	Reference(s)	Wang Y, Yang J, Zheng H, Tomasek GJ, Zhang P, McKeever PE, Lee EY, Zhu Y, Expression of mutant p53 proteins implicates a lineage relationship between neural stem cells and malignant astrocytic glioma in a murine model. Cancer Cell. 2009 Jun 2;15(6):514-26
Ovarian Cancer	**Phenotype(s)**	MGI:5704370 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Dicer1-Flox(NM-CKO-200158)，Pten-Flox(NM-CKO-18004) and Amhr2-Cre mice.
	Reference(s)	Kim J, Coffey DM, Ma L, Matzuk MM, The ovary is an alternative site of origin for high-grade serous ovarian cancer in mice. Endocrinology. 2015 Jun;156(6):1975-81
Squamous Cell Carcinoma	**Phenotype(s)**	MGI:5618123 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Dicer1-Flox(NM-CKO-200158) and KRT5-cre/PGR mice.
	Reference(s)	Lyle S, Hoover K, Colpan C, Zhu Z, Matijasevic Z, Jones SN, Dicer cooperates with p53 to suppress DNA damage and skin carcinogenesis in mice. PLoS One. 2014;9(6):e100920
Charge Syndrome	**Phenotype(s)**	MGI:5750594 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with CMV-cre mice.
	Reference(s)	Van Nostrand JL, Brady CA, Jung H, Fuentes DR, Kozak MM, Johnson TM, Lin CY, Lin CJ, Swiderski DL, Vogel H, Bernstein JA, Attie-Bitach T, Chang CP, Wysocka J, Martin DM, Attardi LD, Inappropriate p53 activation during development induces features of CHARGE syndrome. Nature. 2014 Oct 9;514(7521):228-32

Medulloblastoma	**Phenotype(s)**	MGI:3710322 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Cdkn2c-Flox(NM-CKO-205110) and Nes-cre mice.
	Reference(s)	Uziel T, Zindy F, Xie S, Lee Y, Forget A, Magdaleno S, Rehg JE, Calabrese C, Solecki D, Eberhart CG, Sherr SE, Plimmer S, Clifford SC, Hatten ME, McKinnon PJ, Gilbertson RJ, Curran T, Sherr CJ, Roussel MF, The tumor suppressors Ink4c and p53 collaborate independently with Patched to suppress medulloblastoma formation. Genes Dev. 2005 Nov 15;19(22):2656-67
Stomach Cancer	**Phenotype(s)**	MGI:5634400 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Cdh1-Flox(NM-CKO-18016)，Smad4-Flox(NM-CKO-18011) and Pdx1-cre mice.
	Reference(s)	Park JW, Jang SH, Park DM, Lim NJ, Deng C, Kim DY, Green JE, Kim HK, Cooperativity of E-cadherin and Smad4 Loss to Promote Diffuse-Type Gastric Adenocarcinoma and Metastasis. Mol Cancer Res. 2014 Aug;12(8):1088-99
Invasive Lobular Carcinoma	**Phenotype(s)**	MGI:6296606 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Cdh1-Flox(NM-CKO-18016) and Wap-cre mice.
	Reference(s)	Derksen PW, Braumuller TM, van der Burg E, Hornsveld M, Mesman E, Wesseling J, Krimpenfort P, Jonkers J, Mammary-specific inactivation of E-cadherin and p53 impairs functional gland development and leads to pleomorphic invasive lobular carcinoma in mice. Dis Model Mech. 2011 May-Jun;4(3):347-58
Endometrial Cancer	**Phenotype(s)**	MGI:5604728 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Cdh16-cre mice.
	Reference(s)	Ikenberg K, Valtcheva N, Brandt S, Zhong Q, Wong CE, Noske A, Rechsteiner M, Rueschoff JH, Caduff R, Dellas A, Obermann E, Fink D, Fuchs T, Krek W, Moch H, Frew IJ, Wild PJ, KPNA2 is overexpressed in human and mouse endometrial cancers and promotes cellular proliferation. J Pathol. 2014 Oct;234(2):239-52

Hereditary Breast Ovarian Cancer Syndrome	**Phenotype(s)**	MGI:5297135 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Ccm2-Flox(NM-CKO-2101248) and Cdh5-cre/ERT2 mice.
	Reference(s)	Jones LP, Tilli MT, Assefnia S, Torre K, Halama ED, Parrish A, Rosen EM, Furth PA, Activation of estrogen signaling pathways collaborates with loss of Brca1 to promote development of ERalpha-negative and ERalpha-positive mammary preneoplasia and cancer. Oncogene. 2008 Jan 31;27(6):794-802
Prostate Cancer	**Phenotype(s)**	MGI:4819193 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca2-Flox(NM-CKO-200014) and Pbsn-cre mice.
	Reference(s)	Francis JC, McCarthy A, Thomsen MK, Ashworth A, Swain A, Brca2 and Trp53 deficiency cooperate in the progression of mouse prostate tumourigenesis. PLoS Genet. 2010;6(6):e1000995
Medulloblastoma	**Phenotype(s)**	MGI:3831340 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca2-Flox(NM-CKO-200014) and Nes-cre mice.
	Reference(s)	Frappart PO, Lee Y, Russell HR, Chalhoub N, Wang YD, Orii KE, Zhao J, Kondo N, Baker SJ, McKinnon PJ, Recurrent genomic alterations characterize medulloblastoma arising from DNA double-strand break repair deficiency. Proc Natl Acad Sci U S A. 2009 Feb 10;106(6):1880-5
Breast Cancer	**Phenotype(s)**	MGI:3831430 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca2-Flox(NM-CKO-200014) and KRT14-cre mice.
	Reference(s)	Jonkers J, Meuwissen R, van Der Gulden H, Peterse H, van Der Valk M, Berns A, Synergistic tumor suppressor activity of BRCA2 and p53 in a conditional mouse model for breast cancer. Nat Genet. 2001 Dec;29(4):418-25

Hereditary Breast Ovarian Cancer Syndrome	**Phenotype(s)**	MGI:2176786 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca1-Flox(NM-CKO-18007) and MMTV-cre mice.
	Reference(s)	Xu X, Wagner KU, Larson D, Weaver Z, Li C, Ried T, Hennighausen L , Wynshaw-Boris A , Deng CX, Conditional mutation of Brca1 in mammary epithelial cells results in blunted ductal morphogenesis and tumour formation [see comments]. Nat Genet. 1999 May;22(1):37-43
hereditary breast ovarian cancer syndrome	**Phenotype(s)**	MGI:5297134 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca1-Flox(NM-CKO-18007) and MMTV-cre mice.
	Reference(s)	Jones LP, Tilli MT, Assefnia S, Torre K, Halama ED, Parrish A, Rosen EM, Furth PA, Activation of estrogen signaling pathways collaborates with loss of Brca1 to promote development of ERalpha-negative and ERalpha-positive mammary preneoplasia and cancer. Oncogene. 2008 Jan 31;27(6):794-802
Breast Cancer	**Phenotype(s)**	MGI:3762186 Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca1-Flox(NM-CKO-18007) and KRT14-cre mice.
	Reference(s)	Liu X, Holstege H, van der Gulden H, Treur-Mulder M, Zevenhoven J, Velds A, Kerkhoven RM, van Vliet MH, Wessels LF, Peterse JL, Berns A, Jonkers J, Somatic loss of BRCA1 and p53 in mice induces mammary tumors with features of human BRCA1-mutated basal-like breast cancer. Proc Natl Acad Sci U S A. 2007 Jul 17;104(29):12111-6

breast cancer	**Phenotype(s)**	MGI:5307256 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Brca1-Flox(NM-CKO-18007) and KRT14-cre mice.
	Reference(s)	Drost R, Bouwman P, Rottenberg S, Boon U, Schut E, Klarenbeek S, Klijn C, van der Heijden I, van der Gulden H, Wientjens E, Pieterse M, Catteau A, Green P, Solomon E, Morris JR, Jonkers J, BRCA1 RING Function Is Essential for Tumor Suppression but Dispensable for Therapy Resistance. Cancer Cell. 2011 Dec 13;20(6):797-809
Pancreatic Mucinous Cystadenoma	**Phenotype(s)**	MGI:5898453 Note：The expected phenotype(s) may be observed in the above-mentioned mice that bred with Apc-Flox(NM-CKO-200013) and Pdx1-cre mice.
	Reference(s)	Kuo TL, Weng CC, Kuo KK, Chen CY, Wu DC, Hung WC, Cheng KH, APC haploinsufficiency coupled with p53 loss sufficiently induces mucinous cystic neoplasms and invasive pancreatic carcinoma in mice. Oncogene. 2016 Apr 28;35(17):2223-34

Validation Data

No data