

Product datasheet for **KN313294RB**

Pik3ca Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 RFP-BSD donor, 1 scramble control
Donor DNA:	RFP-BSD
Symbol:	Pik3ca
Locus ID:	18706
Components:	<p>KN313294G1, Pik3ca gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: TCACCCGAAGATGGTCGTGG</p> <p>KN313294G2, Pik3ca gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CATTCCACTAGGATTCGTGG</p> <p>KN313294RBD, donor DNA containing left and right homologous arms and RFP-BSD functional cassette.</p>

Homologous arm and RFP-BSD sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **RFP-BSD in green**; **Right arm in violet**

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AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC
AGAAGTAAGT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGGC
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAATTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCGCT GTTGAGATCC AGTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTACCAGC GTTTCTGGGT GAGCAAAAAC
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GGTAAAACC TCTGACACAT GCAGCTCCG TTGACGGTCA CAGCTTGCT GTAAGCGGAT GCCGGGAGCA
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GGGTCGAGGT GCCGTAAAGC ACTAAATCGG AACCCATAAG GGAGCCCCCG ATTTAGAGCT TGACGGGGAA
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CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACAG CTGTCGCCGT GCTCATTTGA

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TAACTGCCG TTATTCATGC GACACCTCAA ATGATAGTAA CAGTGGCAGA AGCCATCTTC GTGTGTGCCA
 GGCAAGTCT CACTACTCCA TCCCATCCCT AACCTGTTGG CTGCTGCTAC TTGAGACATG CTTGCTAAGT
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 GGTATCTGCG CTCTGCTGAA GCCAGTTACC TTCGAAAAA GAGTTGGTAG CTCTGATCC GGCAACAAA
 CCACCGCTGG TAGCGGTGGT TTTTTTGTG GCAAGCAGCA GATTACGCG AGAAAAAAG GATCTCAAGA
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 GTATATATGA GTAAACTTGG TCTGACAGTT ACCAATGCTT AATCAGTGAG GCACCTATCT CAGCGATCTG
 TCTATTTCTG TCATCCATAG TTGCCTGACT CCCCCTCGTG TAGATAACTA CGATACGGGA GGGCTTACCA
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 AGCCAGCCGG AAGGGCCGAG CGCAGAAGTG GTCCTGCAAC TTTATCCGCC TCCATCCAGT CTATTAATTG
 TTGCCGGGAA GCTAGAGTAA GTAGTTCGCC AGTTAATAGT TTGCGCAACG TTGTTGCCAT TGCTACAGGC
 ATCGTGGTGT CACGCTCGTC GTTTGGTATG GCTTCATTCA GCTCCGGTTC CCAACGATC

GE100003, scramble sequence in pCas-Guide vector

Disclaimer:

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq:

[NM_008839](#)

UniProt ID:

[P42337](#)

Synonyms: 6330412C24Rik; caPI3K; p110; p110alpha

Summary: Phosphoinositide-3-kinase (PI3K) that phosphorylates PtdIns (Phosphatidylinositol), PtdIns4P (Phosphatidylinositol 4-phosphate) and PtdIns(4,5)P2 (Phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3). PIP3 plays a key role by recruiting PH domain-containing proteins to the membrane, including AKT1 and PDK1, activating signaling cascades involved in cell growth, survival, proliferation, motility and morphology. Participates in cellular signaling in response to various growth factors. Involved in the activation of AKT1 upon stimulation by receptor tyrosine kinases ligands such as EGF, insulin, IGF1, VEGFA and PDGF. Involved in signaling via insulin-receptor substrate (IRS) proteins. Essential in endothelial cell migration during vascular development through VEGFA signaling, possibly by regulating RhoA activity. Required for lymphatic vasculature development, possibly by binding to RAS and by activation by EGF and FGF2, but not by PDGF. Regulates invadopodia formation through the PDK1-AKT1 pathway. Participates in cardiomyogenesis in embryonic stem cells through a AKT1 pathway. Participates in vasculogenesis in embryonic stem cells through PDK1 and protein kinase C pathway. Also has serine-protein kinase activity: phosphorylates PIK3R1 (p85alpha regulatory subunit), EIF4EBP1 and HRAS. Plays a role in the positive regulation of phagocytosis and pinocytosis (PubMed:19604150). [UniProtKB/Swiss-Prot Function]

Product images:

