

Product datasheet for **KN519623**

Zbtb7a Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 linear donor
Donor DNA:	EF1a-GFP-P2A-Puro
Symbol:	Zbtb7a
Locus ID:	16969



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Components:
KN519623G1, Zbtb7a gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN519623G2, Zbtb7a gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN519623D, Linear donor DNA containing LoxP-EF1a-tGFP-P2A-Puro-LoxP:

The sequence below is cassette sequence only. The linear donor DNA also contains proprietary target sequence.

LoxP-EF1a-tGFP-P2A-Puro-LoxP (2739 bp)

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ATAACTTCGT ATAATGTATG CTATACGAAG TTATCGTGAG GCTCCGGTGC CCGTCAGTGG GCAGAGCGCA
CATCGCCAC AGTCCCCGAG AAGTTGGGG GAGGGGTCGG CAATTGAACC GGTGCCTAGA GAAGGTGGCG
CGGGGTAAC TGGGAAAGTG ATGTCGTGTA CTGGCTCCGC CTTTTCCCG AGGGTGGGG AGAACCGTAT
ATAAGTCAG TAGTCGCCGT GAACGTTCTT TTTCCGAACG GGTTCGCCG CAGAACACAG GTAAGTGCCG
TGTGTGGTTC CCGCGGGCCT GGCCTCTTTA CGGGTTATGG CCCTTGCGTG CCTTGAATTA CTTCCACCTG
GCTGCAGTAC GTGATTCTTG ATCCCGAGCT TCGGGTTGGA AGTGGGTGGG AGAGTTCGAG GCCTTGCGCT
TAAGGAGCCC CTTCGCCTCG TGCTTGAGTT GAGGCCTGGC CTGGGCGCTG GGGCCCGCG GTGCGAATCT
GGTGGCACCT TCGCGCCTGT CTCGCTGCTT TCGATAAGTC TCTAGCCATT TAAAATTTT GATGACCTGC
TGCAGCGCTT TTTTCTGGC AAGATAGTCT TGTAATGCG GGCCAAGATC TGCACACTGG TATTTTCGTT
TTTGGGGCCG CGGGCGGCGA CGGGGCCCGT GCGTCCCAGC GCACATGTTC GGCAGGCGG GGCCTGCGAG
CGCGGCCACC GAGAATCGGA CGGGGGTAGT CTCAAGCTGG CCGGCCTGCT CTGGTGCCTG GCCTCGCGCC
GCCGTGTATC GCCCGCCCT GGGCGGCAAG GCTGGCCCGG TCGGCACCAG TTGCGTGAGC GGAAAGATGG
CCGCTTCCCG GCCCTGTGTC AGGGAGCTCA AAATGGAGGA CGCGGCGCTC GGGAGAGCGG GCGGGTGAGT
CACCCACACA AAGGAAAAGG GCCTTCCGT CCTCAGCCGT CGCTTCATGT GACTCCACGG AGTACCGGGC
GCCCTCCAG CACCTCGATT AGTTCTCGAG CTTTTGGAGT ACGTCGTCTT TAGTTGGGG GGAGGGGTTT
TATGCGATGG AGTTTCCCA CACTGAGTGG GTGAGACTG AAGTTAGGCC AGCTTGGCAG TTGATGTAAT
TCTCCTTGGG ATTTGCCCTT TTTGAGTTTG GATCTTGGTT CATTCTCAAG CCTCAGACAG TGGTTCAAAG
TTTTTTCTT CCATTTCAAG TGTCGTGAAT GGAGAGCGAC GAGAGCGGCC TGCCCGCCAT GGAGATCGAG
TGCCGCATCA CCGGCACCCT GAACGGCGTG GAGTTCGAGC TGGTGGGCGG CGGAGAGGGC ACCCCCGAGC
AGGGCCGCAT GACCAACAAG ATGAAGAGCA CCAAAGGCGC CCTGACCTTC AGCCCTACC TGCTGAGCCA
CGTGATGGC TACGGCTTCT ACCACTTCGG CACCTACCCC AGCGGCTACG AGAACCCCTT CCTGCACGCC
ATCAACAACG GCGGCTACAC CAACACCCG ATCGAGAAGT ACGAGGACGG CGGCGTGCTG CACGTGAGCT
TCAGCTACCG CTACGAGGCC GGCCGCGTGA TCGGCGACTT CAAGGTGATG GGCACC GGCT TCCCGGAGGA
CAGCGTGATC TTCACCGACA AGATCATCCG CAGCAACGCC ACCGTGGAGC ACCTGCACCC CATGGCGGAT
AACGATCTGG ATGGCAGCTT CACCCGACC TTCAGCCTGC GCGACGGCGG CTACTACAGC TCCGTGGTGG
ACAGCCACAT GCACTTCAAG AGCGCCATCC ACCCCAGCAT CCTGCAGAAC GGGGGCCCA TGTTCCCTT
CCGCCCGTG GAGGAGGATC ACAGCAACAC CGAGTGGGG ATCGTGGAGT ACCAGCACGC CTTCAAGACC
CCGGATGCAG ATGCCGGTGA AGAAAGAGGA AGCGGAGCTA CTAACCTCAG CCTGCTGAAG CAGGCTGGAG
ACGTGGAGGA GAACCCTGGA CCTATGACCG AGTACAAGCC CACGGTGCGC CTCGCCACCC GCGACGACGT
CCCCAGGGCC GTACGCACCC TCGCCGCCG GTTCGCCGAC TACCCGCCA CGGCCACAC CGTCGATCCG
GACCGCCACA TCGAGCGGGT CACCGAGCTG CAAGAACTCT TCCTCACGCG CGTCGGGCTC GACATCGGCA
AGGTGTGGGT CGCGGACGAC GGCGCCGCG TGGCGGTCTG GACCACGCCG GAGAGCGTGC AAGCGGGGGC
GGTGTTCGCC GAGATCGGCC CGCGCATGGC CGAGTTGAGC GGTTCGGGC TGGCCCGCA GCAACAGATG
GAAGGCCTCC TGCGCCGCA CCGGCCAAG GAGCCCGCT GTTCTCTGGC CACCCTCGGC GTCTCGCCG
ACCACCAGGG CAAGGTCTG GGCAGCGCG TCGTGTCCC CGGAGTGGAG GCGGCCGAGC GCGCCGGGT
GCCCGCTTC CTGGAGACCT CCGCGCCCG CAACCTCCC TTCTACGAGC GGCTCGGCT CACCGTCACC
GCCGACGTC AGGTGCCGA AGGACCGCG ACCTGGTGA TGACCCGCA GCCCGGTGCC TGAAACTTGT
TTATTGCAGC TTATAATGGT TACAAATAA GCAATAGCAT CACAAATTC ACAAATAAG CATTTTTTTC
ACTGCATTCT AGTTGTGGT TGTCCAACT CATCAATGA TCTTAATAAC TTCGTATAAT GTATGTATA CGAAGTTAT
    
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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_010731](#)

UniProt ID: [O88939](#)

Synonyms: 9030619K07Rik; 9130006G12Rik; AI452336; FBI-1; Lrf; Pokemon; Zbtb7

Summary:

Transcription factor that represses the transcription of a wide range of genes involved in cell proliferation and differentiation (PubMed:15337766, PubMed:15662416, PubMed:17495164, PubMed:26816381, PubMed:29813070). Directly and specifically binds to the consensus sequence 5'-[GA][CA]GACCCCCCCC-3' and represses transcription both by regulating the organization of chromatin and through the direct recruitment of transcription factors to gene regulatory regions (PubMed:15337766, PubMed:15662416, PubMed:26816381, PubMed:29813070). Negatively regulates SMAD4 transcriptional activity in the TGF-beta signaling pathway through these two mechanisms (By similarity). That is, recruits the chromatin regulator HDAC1 to the SMAD4-DNA complex and in parallel prevents the recruitment of the transcriptional activators CREBBP and EP300 (By similarity). Collaborates with transcription factors like RELA to modify the accessibility of gene transcription regulatory regions to secondary transcription factors (PubMed:29813070). Also directly interacts with transcription factors like SP1 to prevent their binding to DNA (By similarity). Functions as an androgen receptor/AR transcriptional corepressor by recruiting NCOR1 and NCOR2 to the androgen response elements/ARE on target genes (By similarity). Thereby, negatively regulates androgen receptor signaling and androgen-induced cell proliferation (By similarity). Involved in the switch between fetal and adult globin expression during erythroid cells maturation (PubMed:26816381). Through its interaction with the NuRD complex regulates chromatin at the fetal globin genes to repress their transcription (PubMed:26816381). Specifically represses the transcription of the tumor suppressor ARF isoform from the CDKN2A gene (PubMed:15662416). Efficiently abrogates E2F1-dependent CDKN2A transactivation (PubMed:15662416). Regulates chondrogenesis through the transcriptional repression of specific genes via a mechanism that also requires histone deacetylation (PubMed:15337766). Regulates cell proliferation through the transcriptional regulation of genes involved in glycolysis (By similarity). Involved in adipogenesis through the regulation of genes involved in adipocyte differentiation (By similarity). Plays a key role in the differentiation of lymphoid progenitors into B and T lineages (PubMed:17495164). Promotes differentiation towards the B lineage by inhibiting the T-cell instructive Notch signaling pathway through the specific transcriptional repression of Notch downstream target genes (PubMed:17495164). Also regulates osteoclast differentiation (By similarity). May also play a role, independently of its transcriptional activity, in double-strand break repair via classical non-homologous end joining/cNHEJ (PubMed:26446488). Recruited to double-strand break sites on damage DNA, interacts with the DNA-dependent protein kinase complex and directly regulates its stability and activity in DNA repair (PubMed:26446488). May also modulate the splicing activity of KHDRBS1 toward BCL2L1 in a mechanism which is histone deacetylase-dependent and thereby negatively regulates the pro-apoptotic effect of KHDRBS1 (By similarity).[UniProtKB/Swiss-Prot Function]

