

Product datasheet for **KN310944**

Nfkb1 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 GFP-puro donor, 1 scramble control
Donor DNA:	GFP-puro
Symbol:	Nfkb1
Locus ID:	18033
Components:	<p>KN310944G1, Nfkb1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ATGGCAGACGATGATCCCTA</p> <p>KN310944G2, Nfkb1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: TTCTTATCCCAAACACACAG</p> <p>KN310944D, donor DNA containing left and right homologous arms and GFP-puro functional cassette.</p> <p>Homologous arm and GFP-puro sequences: pUC vector backbone in gray; Left arm sequence in blue; GFP-puro in green; Right arm in violet</p> <pre> TGAAGGCCGC TGAGGCTGCT TATATTAATA GCTTGCTAAG TTCAGTAAGT TTGAGACTTT CAGGTTTGTG GTTTTCACTG GTTATTTTTT TAGTGCACTC TTTAGAGTTA CAGAATTTTC ATTGCACTTT GACAAAGGCA GAATGACTCT CACCACTCCT CACAAGAGGG CAGGGGGTGT CGTTCATGTC CCACTCAAGT GTTATGTAAA ATGGTATCAG GACTTCCTCA GCCTCTCAAC CGAGTCTAGA CAGTCCTAGG ACCATCTCAG AGTTCATGAG AAAAAAATG CACAAAGTAG AAGTGGCCAC AGGGTTCCAT CTGGACCTGA TTTTACCCA GAGGTAGGAC CAGCTGTATC AAACCGAGGA CCCTGAGCTT AGCCAAAGGG TTTAGATCCC GTGGTCTCCC TACAATGAGA GGTAGATGCC AAGGAGGTAC AGCACGCATG ATGCCCTCCT ACAGAGGTCT TTTTGCAGA CATTTGTGGT CCCTGTAGAA ATACAGCCTA GCCCTGCATA TGTGCCAGAG TTGTAGGATC TTAAAGATTC ACTCCAGTGC TACAGCTTTC ATTTCTTGTT CTGTTTTGTA CAGCTTCACC TAGTAECTCA GTATCAAGCA AACCTAAAT TAGTAAACAC TACTCTTAAT TTATTTTCAG TTTTCTGTT CTTCCAGAGT TGGAGAGGGC CCTTTCTTAT GTATTTTTCG ATAAACCGT ATATACTACA TGCCAGAAAG TAGCCACTGA GTCAGTTGTG GTGTTGAAGG TCTGACCCCA GTATTTTATA TGGTGACTGG TATATTAATA AAATTGCTAT TCAGTGAGAT TTCTAGGGCT GCTATTAACA TCGCTACAAA CCTGGTGACT TGACACAATA GAAGTGTATC CTTTCATAGG TCTGGAGGCA AGAACTCTGA ATTTGGGGCT GGCAGAAATG TTCCACCTC CTACCACTGC TGGGTGTGTT TAGAGATCCT TGGCATCACA CCAGCCACAG TCTGTTGTTG TGTGGCTTTC CTCCACGTCT TCACACATAC CATCTCCTCT GTCTTAAAAA CACATCACTT TTTGGATGTA GGATCCATCT CTGTCTAGTG TGAATTCATC TTAACATATA TAAAGGCAAA GGCTGCCGTG TCCAAATAAG TCACATGAAG GAGGAGCACT TATGAATTCT GAATATATTT TTTTTCAAAG </pre> <p>GE100003, scramble sequence in pCas-Guide vector</p>
RefSeq:	<u>NM_008689</u>
UniProt ID:	<u>P25799</u>



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Synonyms: NF-kappaB; NF-kappaB1; NF-KB1; p50; p50/p105; p105

Summary: NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. Plays a role in the regulation of apoptosis. Isoform 5, isoform 6 and isoform 7 act as inhibitors of transactivation of p50 NF-kappa-B subunit, probably by sequestering it in the cytoplasm. Isoform 3 (p98) (but not p84 or p105) acts as a transactivator of NF-kappa-B-regulated gene expression. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling; active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105.[UniProtKB/Swiss-Prot Function]

Product images:

