

Product datasheet for **KN510805**

Ndfip1 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:	Ndfip1
Locus ID:	65113



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Components:

KN510805G1, Ndfip1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN510805G2, Ndfip1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN510805D, 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 AGTCCCGAG AAGTTGGGG GAGGGGTGCG CAATTGAACC GGTGCCTAGA GAAGGTGGCG
CGGGGTAAAC TGGGAAAGTG ATGTCGTGTA CTGGCTCCGC CTTTTCCCG AGGGTGGGG AGAACCGTAT
ATAAGTCAG TAGTCGCCGT GAACGTTCTT TTTGCAACG GGTTCGCCG CAGAACACAG GTAAGTGCCG
TGTGTGGTTC CCGCGGGCCT GGCCTCTTTA CGGGTTATGG CCCTTGCGTG CCTTGAATTA CTTCCACCTG
GCTGCAGTAC GTGATTCTTG ATCCCGAGCT TCGGGTTGGA AGTGGGTGGG AGAGTTCGAG GCCTTGCCTG
TAAGGAGCCC CTTCGCCTCG TGCTTGAGTT GAGGCCTGGC CTGGGCGCTG GGGCCGCCG GTGCGAATCT
GGTGGCACCT TCGCGCCTGT CTCGCTGCTT TCGATAAGTC TCTAGCCATT TAAAAATTTT GATGACCTGC
TGCAGCGCTT TTTTCTGGC AAGATAGTCT TGTAAATGCG GGCCAAGATC TGCACACTGG TATTTTCGTT
TTTGGGGCCG CGGGCGGCGA CGGGGCCCGT GCGTCCCAGC GCACATGTTC GGCAGGCGG GGCCTGCGAG
CGCGGCCACC GAGAATCGGA CGGGGGTAGT CTCAAGCTGG CCGGCCTGCT CTGGTGCCTG GCCTCGCGCC
GCCGTGTATC GCCCGGCCCT GGGCGGCAAG GCTGGCCCGG TCGGCACCAAG TTGCGTGAGC GGAAAGATGG
CCGCTTCCCG GCCCTGCTGC AGGGAGCTCA AAATGGAGGA CGCGGCGCTC GGGAGAGCGG GCGGGTGAGT
CACCCACACA AAGGAAAAGG GCCTTTCCGT CCTCAGCCGT CGCTTCATGT GACTCCACGG AGTACCGGGC
GCCGTCCAGG CACCTCGATT AGTTCTCGAG CTTTGGAGT ACCTCGCTT TAGGTTGGGG GGAGGGGTTT
TATGCGATGG AGTTTCCCA CACTGAGTGG GTGGAGACTG AAGTTAGGCC AGCTTGGCAG TTGATGTAAT
TCTCCTTGGG ATTTGCCCTT TTTGAGTTG GATCTTGGT CATTCTCAAG CCTCAGACAG TGGTTCAAAG
TTTTTTCTT CCATTTCAAG TGTCGTGAAT GGAGAGCGAC GAGAGCGGCC TGCCCGCCAT GGAGATCGAG
TGCCGCATCA CCGGCACCTT GAACGGCGTG GAGTTCGAGC TGGTGGGCGG CGGAGAGGGC ACCCCGAGC
AGGGCCGCAT GACCAACAAG ATGAAGAGCA CCAAAGGCGC CCTGACCTTC AGCCCTACC TGCTGAGCCA
CGTGATGGG TACGGTTCTT ACCACTTCGG CACCTACCCC AGCGGCTACG AGAACCCCTT CCTGCACGCC
ATCAACAACG GCGGCTACAC CAACACCCG ATCGAGAAGT ACGAGGACGG CGGCGTGCTG CACGTGAGCT
TCAGCTACCG CTACGAGGCC GGCCGCGTGA TCGGCGACTT CAAGGTGATG GGCACCGGCT TCCCCGAGGA
CAGCGTGATC TTCACCGACA AGATCATCCG CAGCAACGCC ACCGTGGAGC ACCTGCACCC CATGGCGGAT
AACGATCTGG ATGGCAGCTT CACCCGACCC TTCAGCCTGC GCGACGGCGG CTAATACAGC TCCGTGGTGG
ACAGCCACAT GCACTTCAAG AGCGCCATCC ACCCCAGCAT CCTGCAGAAC GGGGGCCCCA TGTTGCCTT
CCGCCCGGTG GAGGAGGATC ACAGCAACAC CGAGCTGGGC ATCGTGAGT ACCAGCACGC CTTCAAGACC
CCGGATGCAG ATGCCGGTGA AGAAAGAGGA AGCGGAGCTA CTAAGTTCAG CCTGCTGAAG CAGGCTGGAG
ACGTGGAGGA GAACCTTGA CCTATGACCG AGTACAAGCC CACGGTGCGC CTCGCCACCC GCGACGACGT
CCCCAGGGCC GTACGCACCC TCGCCGCCG GTTCGCCGAC TACCCGCA CGGCCACAC CGTCGATCCG
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AGGTGTGGT GCGGACGAC GCGCCCGCG TGGCGGTCTG GACCACGCC GAGAGCGTGC AAGCGGGGGC
GGTGTTCGCC GAGATCGGCC CGCGCATGGC CGAGTTGAGC GGTTCGCGG TGCCCGCGCA GCAACAGATG
GAAGGCCTCC TGGCGCCGCA CCGGCCAAG GAGCCCGCT GGTTCCTGGC CACCGTCGGC GTCTCGCCG
ACCACAGGG CAAGGTCTG GGCAGCGCC TCGTGCTCC CGAGTGAG GCGGCCGAGC GCGCCGGGT
GCCCGCTTC CTGGAGACCT CCGCGCCCG CAACCTCCC TTCTACGAG GGCTCGGCTT CACCGTCACC
GCCGACGTC AGGTGCCGA AGGACCGCG ACCTGGTGCA TGACCCGCAA GCCCGGTGCC TGAACTTGT
TTATTGCAGC TTATAATGGT TACAAATAA GCAATAGCAT CACAAATTTT ACAAATAAAG CATTTTTTTC
ACTGCATTCT AGTTGTGGT TGTCCAACT CATCAATGTA TCTTAATAA TTCGTATAAT GTATGCTATA CGAAGTTAT

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RefSeq: [NM_022996](#), [NM_001355749](#)

UniProt ID: [Q8R0W6](#)

Synonyms: 0610010M22Rik; N4wbp5

Summary: Activates HECT domain-containing E3 ubiquitin-protein ligases, including NEDD4 and ITCH, and consequently modulates the stability of their targets. As a result, controls many cellular processes. Prevents chronic T-helper cell-mediated inflammation by activating ITCH and thus controlling JUNB degradation (PubMed:11748237, PubMed:17137798, PubMed:20962770). Promotes pancreatic beta cell death through degradation of JUNB and inhibition of the unfolded protein response, leading to reduction of insulin secretion (PubMed:26319551). Restricts the production of proinflammatory cytokines in effector Th17 T-cells by promoting ITCH-mediated ubiquitination and degradation of RORC (PubMed:28051111). Together with NDFIP2, limits the cytokine signaling and expansion of effector Th2 T-cells by promoting degradation of JAK1, probably by ITCH- and NEDD4L-mediated ubiquitination (PubMed:27088444). Regulates peripheral T-cell tolerance to self and foreign antigens, forcing the exit of naive CD4+ T-cells from the cell cycle before they become effector T-cells (PubMed:24520172, PubMed:28051111). Negatively regulates RLR-mediated antiviral response by promoting SMURF1-mediated ubiquitination and subsequent degradation of MAVS (By similarity). Negatively regulates KCNH2 potassium channel activity by decreasing its cell-surface expression and interfering with channel maturation through recruitment of NEDD4L to the Golgi apparatus where it mediates KCNH2 degradation (By similarity). In cortical neurons, mediates the ubiquitination of the divalent metal transporter SLC11A2/DMT1 by NEDD4L, leading to its down-regulation and protection of the cells from cobalt and iron toxicity (By similarity). Important for normal development of dendrites and dendritic spines in cortex (PubMed:23897647). Enhances the ubiquitination of BRAT1 mediated by: NEDD4, NEDD4L and ITCH and is required for the nuclear localization of ubiquitinated BRAT1 (PubMed:25631046). Enhances the ITCH-mediated ubiquitination of MAP3K7 by recruiting E2 ubiquitin-conjugating enzyme UBE2L3 to ITCH (PubMed:25632008). Modulates EGFR signaling through multiple pathways. In particular, may regulate the ratio of AKT1-to-MAPK8 signaling in response to EGF, acting on AKT1 probably through PTEN destabilization and on MAPK8 through ITCH-dependent MAP2K4 inactivation. As a result, may control cell growth rate (By similarity). Inhibits cell proliferation by promoting PTEN nuclear localization and changing its signaling specificity (PubMed:25801959).[UniProtKB/Swiss-Prot Function]

Product images:

