

## Product datasheet for **KN201242**

### CD20 (MS4A1) Human 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:	CD20
Locus ID:	931
Components:	<b>KN201242G1</b> , CD20 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GGCCCTATTGCTATGCAATC <b>KN201242G2</b> , CD20 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ATCCTCCTGAAGAGTGGTTT <b>KN201242D</b> , donor DNA containing left and right homologous arms and GFP-puro functional cassette.

#### Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **GFP-puro in green**; **Right arm in violet**

```

AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC
AGAAGTAAGT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAATTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCCTG GTTGAGATCC AGTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTACCAGC GTTTCTGGGT GAGCAAAAAC
AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA
AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCGGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT
TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCCTTTCGGG TCGCGCGTTT CGGTGATGAC
GGTAAAACC TCTGACACAT GCAGCTCCCG TTGACGGTCA CAGCTTGCT GTAAAGCGAT GCCGGGAGCA
GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA
GCAGATTGTA CTGAGAGTGC ACCATAAAAT TGTAACGTT AATATTTTGT TAAAATTCGC GTTAAATTTT
TGTTAAATCA GCTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAATCA AAAGAATAGC
CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT
CAAAGGGCGA AAAACCGTCT ATCAGGGCGA TGGCCCACTA CGTGAACCAT CACCCAAATC AAGTTTTTTG
GGGTCGAGGT GCCGTAAAGC ACTAAATCGG AACCCATAAG GGAGCCCCCG ATTTAGAGCT TGACGGGGAA
AGCCGGCGAA CGTGCGGAGA AAGGAAGGGA AGAAAGCGAA AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT
AGCGGTACAG CTGCGGTAA CCACCACACC CGCCGCGCTT AATGCGCCGC TACAGGGCGC GACTATGGT
TGCTTTGACG TATGCGGTGT GAAATACCGC ACAGATCGCT AAGGAGAAAA TACCGCATCA GGCGCCATTC
GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCCTCTT CGTATTACG CCAGCTGGCG
AAAGGGGAT GTGCTGCAAG GCGATTAAGT TGGGTAACGC CAGGGTTTTC CCAGTACGA CGTTGTAATA
CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACAGG CTGTCGCCGT GCTCATTTGA

```



[View online »](#)

TAACTGCCCG TTATTCATGC GACACCTCCC AAAGTGCTTG GATTACAGGC ATGAGCCACC GTGCCCGACC  
 TAGAGAGCCT TCTTGATGTG ACTTGACAAA GGTGGCAGAG TTAGAGACAG AGAGAGGCCCT GGAATCGACC  
 CCTCTGCTT CTACAGATAG TCCTTACCAT ACTCTGCAAT GTTGCCTCTG GCCCATCATA ATGCACAAAG  
 GCAGATAAGC AAAAGGACAA GGACAAGTCC ATTGAAAATA CATTTTTCAA TATTAAGCA AAAGAAAAGC  
 ATCCAGGAAT AAGAAACAAA GAGGACATGC AGTCATATAT GCAAGGTGTC CTCTACAAG ATAAGAATG  
 CCCCAAACCC AGTTGTCAAG ATCACTGGCA GGGACTCCTG GGCCCATATG CTCTTCTAA ACAACCCCTC  
 CATCTCCTTT CTCAGAACTC AGCAGTAGGC CTTGCCTCAG ATCCAAGGTC ACTCGGAAGA GGCCATGTCT  
 ACCCTCAATG ACACTCATGG AGGAAAATGCT GAGAGAAGCA TTCAGATGCA TGACACAAGG TAAGACTGCC  
 AAAAATCTTG TTCTTGCTCT CCTCATTTTG TTATTTGTTT TATTTTATAG AGTTTGTAGA GCAAAACTAG  
 CATGGAGAGC GACGAGAGCG GCCTGCCCGC CATGGAGATC GAGTGCCGCA TCACCGGCAC CCTGAACGGC  
 GTGGAGTTCG AGCTGGTGGG CGGCGGAGAG GGCACCCCGC AGCAGGGCCG CATGACCAAC AAGATGAAGA  
 GCACCAAAGG CGCCCTGACC TTCAGCCCTT ACCTGCTGAG CCACGTGATG GGCTACGGCT TCTACCACTT  
 CGGCACCTAC CCCAGCGGCT ACGAGAACC CTTCCTGCAC GCCATCAACA ACGGCGGCTA CACCAACACC  
 CGCATCGAGA AGTACGAGGA CGGCGGCGTG CTGCACGTGA GCTTCAGCTA CCGCTACGAG GCCGGCCGCG  
 TGATCGGCGA CTTCAAGGTG ATGGGCACCG GCTTCCCGA GGACAGCGTG ATCTTACCAC ACAAGATCAT  
 CCGCAGCAAC GCCACCGTGG AGCACCTGCA CCCCATGGGC GATAACGATC TGGATGGCAG CTTACCCCGC  
 ACCTTCAGCC TGC GCGACGG CGGCTACTAC AGCTCCGTGG TGGACAGCCA CATGCACCTC AAGAGCGCCA  
 TCCACCCAG CATCCTGCAG AACGGGGGCC CCATGTTTCG CTTCCGGCCG GTGGAGGAGG ATCACAGCAA  
 CACCGAGCTG GGCATCGTGG AGTACCAGCA CGCCTTCAAG ACCCCGGATG CAGATGCCGG TGAAGAAAGA  
 GTTTAAGAAT TCCGATCATA TTCAATAACC CTTAATATAA CTTCTGATAA TGTATGCTAT ACGAAGTTAT  
 TAGGTCTGAA GAGGAGTTTA CGTCCAGCCA AGCTTAGGAT CTCGACCTCG AAATTCTACC GGGTAGGGGA  
 GGCCTTTTC CCAAGGCAGT CTGGAGCATG CGCTTTAGCA GCCCGCTGG GCACCTGGCG CTACACAAGT  
 GGCCTCTGGC CTCGCACACA TTCCACATCC ACCGATAGGC GCCAACCGAC TCCGTTCTTT GGTGGCCCTT  
 TCGCGCCACC TTCTACTCCT CCCCTAGTCA GGAAGTTCCC CCCC GCCCGCAGCTCGCTT CGTGCAGGAC  
 GTGACAAATG GAAGTAGCAC GTCTACTAG TCTCGTGAG ATGGACAGCA CCGCTGAGCA ATGGAAGCGG  
 GTAGGCCTTT GGGGAGCGG CCAATAGCAG CTTTGCTCCT TCGCTTCTG GGCTCAGAGG CTGGGAAGGG  
 GTGGGTCCGG GGGCGGGCTC AGGGGCGGGC TCAGGGGCGG GCGGGGCGCC CGAAGGTCTT CCGGAGGCC  
 GGCATTCTGC ACGCTTCAAA AGCGCACGTC TGCCGCGCTG TTCTCCTCTT CCTCATCTCC GGGCCTTTCG  
 ACCTGCATCC ATCTAGATCT CGAGCAGCTG AAGCTTACCA TGACCGAGTA CAAGCCCACG GTGCGCCTCG  
 CCACCCGCGA CGACGTCCC AGGGCCGTAC GCACCCTCGC CGCCGCGTTC GCCGACTACC CCGCCACGCG  
 CCACACCGTC GATCCGGACC GCCACATCGA GCGGGTCACC GAGCTGCAAG AACTCTTCTT CACGCGCGTC  
 GGGCTCGACA TCGGCAAGGT GTGGGTGCGG GACGACGGCG CCGCGGTGGC GGTCTGACC ACGCCCGAGA  
 GCGTCAAGC GGGGCGGGT TCGCCGAGA TCGGCCCGC CATGGCCGAG TTGAGCGGTT CCCGGCTGGC  
 CGCGCAGCAA CAGATGGAAG GCCTCCTGGC GCCGACCGG CCCAAGGAGC CCGCGTGGTT CCTGGCCACC  
 GTCGGCGTCT CGCCGACCA CCAGGGCAAG GGTCTGGGCA GCGCCGTCGT GCTCCCCGA GTGGAGGCGG  
 CCGAGCGCGC CGGGGTGCC GCCTTCTTGG AGACCTCCG GCCCACAACT CTCCCCTTCT ACGAGCGGCT  
 CGGCTTACC GTCACCGCCG ACGTCGAGGT GCCCGAAGGA CCGCGCACCT GGTGCATGAC CCGCAAGCCC  
 GGTGCCTGAC GCCCGCCCA CGACCCGACG CGCCGACCG AAAGGAGCGC ACGACCCCAT GCATCGATGA  
 TATCAGATCC CCGGATGCA GAAATTGATG ATCTATTAAA CAATAAAGAT GTCCACTAAA ATGGAAGTTT  
 TTCTGTCTAT ACTTTGTTAA GAAGGTGAG AACAGAGTAC CTACATTTT AATGGAAGGA TTGGAGCTAC  
 GGGGTGTTG GTGGGTGGG ATTAGATAAA TGCTGTCTT TTAAGTAAAG CTCTTTACTA TTGCTTTATG  
 ATAATGTTT ATAGTTGGAT ATCATAATTT AAACAAGCAA AACCAAATTA AGGGCCAGCT CATTCTCTCC  
 ACTCATGATC TATAGATCTA TAGATCTCTC GTGGGATCAT TGTTTTTCTT TTGATTCCCA CTTTGTGGTT  
 CTAAGTACTG TGGTTTCAA ATGTGTCAGT TTCATAGCCT GAAGAACGAG ATCAGCAGCC TCTGTTCCAC  
 ATACACTTCA TTCTCAGTAT TGTTTTGCCA AGTTCTAATT CCATCAGAAG CTGGTCGAGA TCCGGAACCC  
 TTAATATAAC TTCGTATAAT GTATGCTATA CGAAGTTATT AGGTCCCTCG AAGAGGTTCA CTAGGCGCGC  
 CATCTAAGAC TTTGGGGTGA AGTCAGTTGC CTTCCATCCC ATGTCGTAGG GATTCTCTGG CTGACAGAAG  
 CTGATGCGGT ATAGCCACA TACAGAATTC AATCCAATTT GAAGAATTGG GATCCAACCT GATGTCTTCT  
 TTATGTCTAA CACAGTGGG CAAATCAGGG GTGCATCAGA GAAGTTATCA CTTAGATCAC CTCTGGGTGA  
 TCTTATGCA CCTTTGGTT TTGGGGCTTG TATATGCAGG GGTCCCCCAT CCCAGTCCAT TGCCAGAATC  
 CCAGGCATAC CTGCTCCCTG GAAATGCCCC ATGTGTTTGA GAAACAGAT TCGAACAAGA AAAAGACAAA  
 ATTCTTGGA CCTCCACTGC TTCCTTAGG CATTCTCAC AGCTCCAAGT CAGGAGCCAG AGCTTCCAAC

CTTGTCTTTG CCTGCTAGCA GTGATGATTT CAGCTCATCC ACTGCTGCCT CTGTTCTCTC CCCAGGCTGT  
 CCAGATTATG AATGGGCTCT TCCACATTGC CCTGGGGGGT CTTCTGATGA TCCCAGCAGG GATCTATGCA  
 CCCATCTGTG TGA CTGTGTG GTACCCCTCTC TGGGGAGGCA TTCACTCTCG CCGGTTGGAC TTTAGATCAG  
 AAGGGATCTT GCTGCCGCC GAAAGAGGAA GGGCTGGAAG AGGAAGGAGC TTGGCGTAAT CATGGTCATA  
 GCTGTTTCCT GTGTGAAATT GTTATCCGCT CACAATTCCA CACAACATAC GAGCCGGAAG CATAAAGTGT  
 AAAGCCTGGG GTGCCTAATG AGTGAGCTAA CTCACATTAA TTGCGTTGCG CTCACTGCCC GCTTTCCAGT  
 CGGGAAACCT GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG AGAGGGGTT TCGTATTGG  
 GCGCTCTTCC GCTTCCTCGC TCACTGACTC GCTGCGCTCG GTCGTTTCGGC TCGGGCGAGC GGTATCAGCT  
 CACTCAAAGG CGTAATACG GTTATCCACA GAATCAGGGG ATAACGCAGG AAAGAACATG TGAGCAAAAAG  
 GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT GGCGTTTTTC CATAGGCTCC GCCCCCCTGA  
 CGAGCATCAC AAAAATCGAC GCTCAAGTCA GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG  
 TTTCCCCCTG GAAGCTCCCT CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC CTGTCCGCT  
 TTCTCCCTTC GGAAGCGTG GCGCTTTCTC ATAGCTCAG CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT  
 TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCCTCAG CCCGACCCT GCGCCTTATC CGGTAACTAT  
 CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC TGGCAGCAGC CACTGGTAAC AGGATTAGCA  
 GAGCGAGGTA TGTAGGCGGT GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGAAC  
 AGTATTTGGT ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC  
 AAACAAACCA CGCTGGTAG CCGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT  
 CTCAGAAGA TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAAACCTCAC GTTAAGGGAT  
 TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTTAAATT AAAAATGAAG TTTTAAATCA  
 ATCTAAAGTA TATATGAGTA AACTTGGTCT GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTCAG  
 CGATCTGTCT ATTTTCGTTCA TCCATAGTTG CCTGACTCCC CGTCGTGTAG ATAACCTACGA TACGGGAGGG  
 CTTACCATCT GGCCCCAGTG CTGCAATGAT ACCGCGAGAA CCACGCTCAC CGGCTCCAGA TTTATCAGCA  
 ATAAACACGC CAGCCGGAAG GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC ATCCAGTCTA  
 TTAATTGTTG CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT TAATAGTTTG CGCAACGTTG TTGCCATTGC  
 TACAGGCATC GTGGTGTAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA ACGATC

**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\\_021950](#), [NM\\_152866](#), [NM\\_152867](#)

**UniProt ID:**

[P11836](#)

**Synonyms:**

B1; Bp35; CD20; CVID5; LEU-16; MS4A2; S7

**Summary:**

This gene encodes a member of the membrane-spanning 4A gene family. Members of this nascent protein family are characterized by common structural features and similar intron/exon splice boundaries and display unique expression patterns among hematopoietic cells and nonlymphoid tissues. This gene encodes a B-lymphocyte surface molecule which plays a role in the development and differentiation of B-cells into plasma cells. This family member is localized to 11q12, among a cluster of family members. Alternative splicing of this gene results in two transcript variants which encode the same protein. [provided by RefSeq, Jul 2008]

Product images:

