

## Product datasheet for **KN221385RB**

### IREB2 Human 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:** IREB2  
**Locus ID:** 3658  
**Components:** **KN221385G1**, IREB2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)  
**KN221385G2**, IREB2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)  
**KN221385RBD**, donor DNA containing left and right homologous arms and RFP-BSD functional cassette.

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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TCATTCAACA GTTGAGCGCC TCCACGCGC CCGATCAGTA TGGCCGCCCC CACTTAAAA CACGCGTGTG
GGCCGCCAC GTCTGACAAG TTAATGCAAG GCTTTATAGT TAGGGGAAAG CGGTTCTCCT TGAGCTCTTT
CTCCTAGCAG TTCCGATTCC GACCCTGACT CCAACAGACA CCTTGCGGGA ACGCAAACAC CGCTCGAATT
CATGACCCCA ATAGAAAAT TAAGGCCGCA ACTAAGTAAC GGATCGCTGC GAAGGCCAAA CTAGCCACGC
CAACGCCCCC ACTGGAGCCT CCCAGCGCT CCGCCCCGC TCGCGAGAAC AGCGGCGACG GCGCGAGAAA
TCGCTTTCTG GTTAGCTCCG CCCCTTCCCT TTCTTTGTTT TCCTGTCCGA CGATCTCGCG GGAGTTAGGC
GACAAATCCC GCGAGCGCAG ACCCGGGGCT GGCTCTGCTG CTCTCGCGAT ATTTGCGCGA GCCTGCTTCC
TTCTTTCCTC CCTTGCCAGT CCGCCTGTCT TCCTCCCCGT CTCCCTGCC CGGCCTCCCC CTTCTTCCCC
CGCTGGCCCC CTCCCCGAG GGATAATATG GTCTCCGCG AATCAGTCCC TCTAATGTTA ATTGTGGAAT
TCACAAATTC CTGTCTCTGC AGTTTTCAAG ACATGTCTTT CCAAAAACGTC CCCGTGGATT ATTTAAATCA
TTCTTATTGT CCCTTCCAG GTATTCTTAT CACATTCAG GAGTGAATTA TCTTACTAGT TTTTACTTGA
CAAATTATGG TTTAGAATA TGCTTCCAG TGTGGTGGAT ACTAGCCCTG TGTGACTTTA AATTAATCAA
AATTAATAA ATTAATAAATT CAGTTCCTCA GGCACGATAG CCACATTTCA GGTGCTCAAT AGCCACACGT
TGCTAATGGC TACTTTACTG GACAGCTCAA ACATAGAATA TTTTACCAT TGCAGAAAAT TCTATTGGAT
AAAGCTAGTT TCCAGGTATT TTCAGCTGAA TAAAATATTT TGTTGCTGCA TTTAATGAAA ATACAATTTT
TTTTTCAGGA TACGCCTTTG AGTACCTTAT TGAACATTA AATGACAGTT CACATAAGAA GTTCTTCGAT
GTATCTAAAC TTGGCACCAA GTATGGTAAT GTTGCTTTAC ATTTTCTTGG GTTTGTTTAG TCTCTAATAA
TGAAAATGCA
```

**GE100003**, scramble sequence in pCas-Guide vector



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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\\_001320941](#), [NM\\_001320942](#), [NM\\_001320943](#), [NM\\_004136](#), [NM\\_001354994](#)

**UniProt ID:** [P48200](#)

**Synonyms:** ACO3; IRP2; IRP2AD

**Summary:** The protein encoded by this gene is an RNA-binding protein that acts to regulate iron levels in the cells by regulating the translation and stability of mRNAs that affect iron homeostasis under conditions when iron is depleted. When iron levels are low, this protein binds to iron-responsive elements (IRES), stem-loop structures located either in the 5' or 3' UTRs. Binding to the 5' UTR represses translation, while binding to the 3' UTR inhibits mRNA degradation. When iron is found in the cell, this protein is degraded in a F-box and leucine rich repeat protein 5-dependent manner. Variants in this gene have been associated with lung cancer and chronic obstructive pulmonary disease (COPD). Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Aug 2017]

### Product images:

