

## **Product datasheet for KN201959RB**

# XBP1 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: XBP1 Locus ID: 7494

**Components:** KN201959G1, XBP1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN201959G2, XBP1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN201959RBD, 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

GACTTCTATT CCGCAGAATT TCTTTCCAGG CTTTTTTCTT TTTCTTTTTT TGAGACGGAG TCTCGCTCTG TCGCCCAGGC CGGGGTGCAG TGGCGCGATC TCGGCTCACT GAAACCTCTG TCCAGTCTTT TCGAACCCAA GGCCCAACTG CGCTCTATCT CGACTTTCGG CTCCACTCGG ATCCCGAAGT GGCGCACGAG ATAAAATGTT GTCAGGCTGA GGTAATTCTC TGTTAGTCCC GGTAAAAATT CGTCAGTCTG GAAAGCTCTC GGTTTGGAAT TAAATTCTGT CACTCCGGAT GGAAATAAGT CCGCTTAAGG GGGGAAAATC CGTTTGTGGA GGACACGCTC CCGCACGTAA CCCCCGCGG AAAATGACCC CAAGTACCTT TGGCCAGGGA TTGCCGCTGC CACGCCGGAC TCCATAGCCA CGGTCCTGAA ACGCCCCGCC GGGCAGGCCG GACCAATGGA CGCCGAGCTC GGCCGTGCGT CACGCGACGC TGGCCAATCG CGGAGGGCCA CGACCGTAGA AAGGCCGGGC GCGGCGAGGC TGGGCGCTGG GCGGCTGCGG CGCGCGGTGC GCGGTGCGTA GTCTGGAGCT CTCATGGTGC CAGCCCAGAG AGGGGCCAGC CCGGAGGCAG CGAGCGGGG GCTGCCCCAG GCGCGCAAGC GACAGCGCCT CACGCACCTG AGCCCCGAGG AGAAGGCGCT GAGGAGGTGG GCGAGGGGCC GGGGTCTGGG GCCAGATCTG AAGCCGGGAC TAGGGACAGG GGCAGGGGCA GGGGCTGGGA GCGGGGACCC AGCACTGGCC GCCCCGCAGG GCTCCGTCGC CTTTGGCCTG GCGGGTCGGT GCCAGCGTGG CGCGGGGCGG GGCAGGAAGC CCGGACTGAC CGGATCCGCC ACGCTGGGAA CCTAGGGCGG CCCAGGGCTC TTTTCTGTAC TTTTTAACTC TCTCGTTAGA GATGACCAGA GCTGGGGATG CGGGCACCTG TCTTCCAGGC CCTCTTGCTG TGTGGCCGCA GACTGGTGGT TCAGCCTCTT AACTCGGACA TGAGGTCGAA TAATCTGTTT TGGTTTACTG CTATTTCTGG AGAGGCGCGG AGCTGAAATA ACAGAGCTGT TGAAAGGGCT GGGAATTCTG CGAGGCTCAC TGGTCTAGCT CAGTATCTGC GTTCTTAAAA TGGAACCTAC

TTCATGAGGT

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:** <u>NM 001079539</u>, <u>NM 005080</u>

UniProt ID: P17861

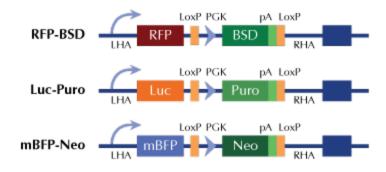
**Synonyms:** TREB-5; TREB5; XBP-1; XBP2

**Summary:** This gene encodes a transcription factor that regulates MHC class II genes by binding to a

promoter element referred to as an X box. This gene product is a bZIP protein, which was also identified as a cellular transcription factor that binds to an enhancer in the promoter of the T cell leukemia virus type 1 promoter. It may increase expression of viral proteins by acting as the DNA binding partner of a viral transactivator. It has been found that upon accumulation of unfolded proteins in the endoplasmic reticulum (ER), the mRNA of this gene is processed to an active form by an unconventional splicing mechanism that is mediated by the endonuclease inositol-requiring enzyme 1 (IRE1). The resulting loss of 26 nt from the spliced mRNA causes a frame-shift and an isoform XBP1(S), which is the functionally active transcription factor. The isoform encoded by the unspliced mRNA, XBP1(U), is constitutively expressed, and thought to function as a negative feedback regulator of XBP1(S), which shuts off transcription of target genes during the recovery phase of ER stress. A pseudogene of XBP1 has been identified and localized to chromosome 5. [provided by RefSeq, Jul 2008]

## **Product images:**

### Donor Vector Edited Chromosome



RFP, Luc, and mBFP will be under native gene promoter