

## Product datasheet for **KN201959**

### **XBP1 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:** XBP1  
**Locus ID:** 7494  
**Components:** **KN201959G1**, XBP1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ACTTTAGGGGTCCCCGTCGGC  
**KN201959G2**, XBP1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CCCGTCGGCCGGGTTCGGCG  
**KN201959D**, 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**

```
GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG ACGAGCGTGA CACCACGATG CCTGTAGCAA
TGGCAACAAC GTTGCACAAA CTATTAACCTG GCGAACTACT TACTCTAGCT TCCCAGCAAC AATTAATAGA
CTGGATGGAG GCGGATAAAG TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT
GATAAATCTG GAGCCGGTGA GCGTGGTTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC AGATCGCTGA
GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTACAGC CAAGTTTACT CATATATACT TTAGATTGAT
TTAAAACCTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA TCCTTTTTGA TAATCTCATG ACCAAAATCC
CTTAACGTGA GTTTTCGTTC CACTGAGCGT CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC
TTTTTTCTG CGCGTAATCT GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG
GATCAAGAGC TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTTC
TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC TCGCTCTGCT
AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG GGTGGACTC AAGACGATAG
TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT CGTGACACACA GCCCAGCTTG GAGCGAACGA
CCTACACCGA ACTGAGATAC CTACAGCGTG AGCTATGAGA AAGCGCCACG CTTCCGGAAG GGAGAAAGGC
GGACAGGTAT CCGGTAAGCG GCAGGGTCCG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC
TGGTATCTTT ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGTA TGCTCGTCAG
GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT GCTGGCCTTT
TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA TTACCGCCTT TGAGTGAGCT
GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA
TACGCAAACC GCCTCTCCCC GCGCGTTGGC CGATTTCATTA ATGCAGCTGG CACGACAGGT TTCCCAGCTG
GAAAGCGGGC AGTGAGCGCA ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC
TTTATGCTTC CGGCTCGTAT GTTGTTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
ACCATGATTA CGCCAAGCTC CTTCTCTTTC CAGCCCTTCC TCTTCTACTG ACTGACTGAC TGGGTCTCAA
```



[View online »](#)

CCTGACTTCT ATTCCGCAGA ATTTCTTTCC AGGCTTTTTT CTTTTTCTTT TTTTGAGACG GAGTCTCGCT  
 CTGTCCGCCA GGCCGGGGTG CAGTGGCGCG ATCTCGGCTC ACTGAAACCT CTGTCCAGTC TTTTCGAAAC  
 CAAGGCCCAA CTGCGCTCTA TCTCGACTTT CGGCTCCACT CGGATCCCGA AGTGGCGCAC GAGATAAAAT  
 GTTGTGAGGC TGAGGTAATT CTCTGTTAGT CCCGGTAAAA ATTCGTGAGT CTGGAAGACT CTCGGTTTTG  
 AATTAATTC TGCACTCCG GATGAAAATA AGTCCGCTTA AGGGGGGAAA ATCCGTTTGT GGAGGACACG  
 CTCCCGCACG TAACCCCGCG CGGAAAATGA CCCCAAGTAC CTTTGGCCAG GGATTGCCCG TGCCACGCCG  
 GACTCCATAG CCACGGTCTT GAAACGCCCC GCCGGGCAGG CCGGACCAAT GGACGCCGAG CTCGGCCGTG  
 CGTCACGCGA CGCTGGCCAA TCGCGGAGGG CCACGACCGT AGAAAGGCCG GGCGCGGCGA GGCTGGGCGC  
 TGGGCGGCTG CGGCGCGCGG TCGCGGTGTC GTAGTCTGGA GCTACTAGCA TGGAGAGCGA CGAGAGCGGC  
 CTGCCCGCCA TGGAGATCGA GTGCCGCATC ACCGGCACCC TGAACGGCGT GGAGTTCGAG CTGGTGGGCG  
 GCGGAGAGGG CACCCCGAG CAGGGCCGCA TGACCAACA GATGAAGAGC ACCAAAGGCG CCCTGACCTT  
 CAGCCCCTAC CTGCTGAGCC ACGTGATGGG CTACGGCTTC TACCACTTCG GCACCTACCC CAGCGGCTAC  
 GAGAACCCCT TCCTGCACGC CATCAACAAC GCGGGCTACA CCAACACCCG CATCGAGAAG TACGAGGACG  
 GCGGCGTGCT GCACGTGAGC TTCAGCTACC GCTACGAGGC CGGCCGCGTG ATCGGCGACT TCAAGGTGAT  
 GGGCACCGGC TTCCCGAGG ACAGCGTGAT CTTACCCGAC AAGATCATCC GCAGCAACGC CACCGTGGAG  
 CACCTGCACC CCATGGGCGA TAACGATCTG GATGGCAGCT TCACCCGCAC CTTCAGCCTG CGCGACGGCG  
 GCTACTACAG CTCCGTGGTG GACAGCCACA TGCACTTCAA GAGCGCCATC CACCCAGCA TCCTGCAGAA  
 CGGGGGCCCC ATGTTCCGCT TCCGCCGCGT GGAGGAGGAT CACAGCAACA CCGAGCTGGG CATCGTGGAG  
 TACCAGCACG CCTTCAAGAC CCCGGATGCA GATGCCGGTG AAGAAAGAGT TTAAGAATTC CGATCATATT  
 CAATAACCCT TAATATAACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG  
 TCCAGCCAAG CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGCTTTTCCC AAGGCAGTCT  
 GGAGCATCGC CTTTAGCAGC CCCGTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT  
 CCACATCCAC CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCTTC GGCACACTT CTRACTCTCC  
 CCTAGTCAGG AAGTTCCCGC CGGCCCGCA GCTCGCGTCG TGCAGGACGT GACAAAATGGA AGTAGCACGT  
 CTRACTAGTC TCGTGCAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGGT AGGCCTTTGG GGCAGCGGCC  
 AATAGCAGCT TTGCTCCTTC GCTTTCTGGG CTCAGAGGCT GGAAGGGGT GGGTCCGGGG GCGGGCTCAG  
 GGGCGGGCTC AGGGGCGGGG CGGGCGCCCG AAGGTCTCTC GGAGGCCCGG CATTCTGCAC GCTTCAAAAG  
 CGCACGTCTG CCGCGCTGTT CTCCTCTTCC TCATCTCCGG GCCTTTTCGAC CTGCATCCAT CTAGATCTCG  
 AGCAGCTGAA GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCAGC ACGTCCCCAG  
 GGGCGTACG ACCCTCGCG CCGCGTTCG CACTACCCC GCCACGCGCC ACACCGTGA TCCGGACCGC  
 CACATCGAGC GGGTCACCGA GCTGCAAGAA CTCTTCTCA CGCGCGTCGG GCTCGACATC GGCAAGGTGT  
 GGGTCCGCGA CGACGGCGCC GCGGTGGCGG TCTGACCAC GCCGGAGAGC GTCGAAGCGG GGGCGGTGTT  
 CGCCGAGATC GGCCCGCGCA TGGCCGAGTT GAGCGGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGGC  
 CTCTGGCGC CGCACCGGCC CAAGGAGCCC GCGTGGTTCC TGGCCACCGT CGGCGTCTCG CCCGACCACC  
 AGGGCAAGGG TCTGGGCAGC GCCGTCGTGC TCCCGGAGT GGAGGCCGCC GAGCGCGCCG GGGTCCCCGC  
 CTTCTGGAG ACCTCCGCGC CCCACAACCT CCCCTTCTAC GAGCGGCTCG GCTTACCGT CACCGCCGAC  
 GTCGAGGTGC CCGAAGGACC GCGCACCTGG TGCATGACCC GCAAGCCCGG TGCCTGACGC CCGCCCCAG  
 ACCCGCAGC CCCGACCGAA AGGAGCGCAT GACCCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA  
 AATTGATGAT CTATTAACA ATAAAGATGT CCACTAAAAT GGAAGTTTTT CCTGTCATAC TTTGTTAAGA  
 AGGGTGAGAA CAGAGTACCT ACATTTTGAA TGAAGGATT GGAGCTACGG GGGTGGGGT GGGGTGGGAT  
 TAGATAAATG CCTGCTCTTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT  
 CATAATTTAA ACAAGCAAAA CCAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA  
 GATCTCTCGT GGGATCATTG TTTTTCTCTT GATTCCACT TTGTGTTTCT AAGTACTGTG GTTTCCAAAT  
 GTGTGAGTTT CATAGCCTGA AGAACGAGAT CAGCAGCTC TGTTCCACAT ACACTTCATT CTCAGTATTG  
 TTTTGCCAAG TTCTAATTCC ATCAGAAGCT GGTCGAGATC CGGAACCCTT AATATAACTT CGTATAATGT  
 ATGCTATACG AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCC **TCATGGTGCC AGCCAGAGA**  
**GGGGCCAGCC CGGAGGCAGC GAGCGGGGGG CTGCCCCAGG CGCGCAAGCG ACAGCGCTC ACGCACCTGA**  
**GCCCCGAGGA GAAGGCGCTG AGGAGGTGGG CGAGGGGCCG GGGTCTGGGG CCAGATCTGA AGCCGGGACT**  
**AGGGACAGGG GCAGGGGAG GGGCTGGGAG CGGGGACCCA GCACTGGCCG CCCCAGAGG CTCCTGCGCC**  
**TTTGGCCTGG CGGGTCGGTG CCAGCGTGGC GCGGGCGGGG GCAGGAAGCC CGGACTGACC GGATCCGCCA**  
**CGCTGGGAAC CTAGGGCGGC CCAGGGCTCT TTTCTGACT TTTTAACTCT CTCGTTAGAG ATGACCAGAG**  
**CTGGGGATGC GGGCACCTGT CTTCCAGGCC CTCTTGCTGT GTGGCCGAG ACTGTTGGTT CAGCCTCTTA**

ACTCGGACAT GAGGTCTGAAT AATCTGTTTT GGTTTACTGC TATTTCTGGA GAGGCGCGGA GCTGAAATAA  
 CAGAGCTGTT GAAAGGGCTG GGAATTCTGC GAGGCTCACT GGTCTAGCTC AGTATCTGCG TTCTTAAAAA  
 GGAACCTACT TCATGAGGTA CGAAGAGACC ACTGACTGAC TGACTGGAAA GTCCTCTCCA CTGACTGTAG  
 CCTCCAATTC ACTGGCCGTC GTTTTACAAC GTCGTGACTG GGAAAACCCT GGCCTTACCC AACTTAATCG  
 CCTTGACGCA CATCCCCCTT TCGCCAGCTG GCGTAATAGC GAAGAGGCCG GCACCGATCG CCCTTCCCAA  
 CAGTTGCGCA GCCTGAATGG CGAATGGCGC CTGATGCGGT ATTTTCTCCT TACGCATCTG TCGCGTATTT  
 CACACCGCAT ACGTCAAAGC AACCATAGTA CGCGCCCTGT AGCGGGCGCAT TAAGCGCGGC GGGTGTGGTG  
 GTTACGCGCA GCGTGACCGC TACACTTGCC AGCGCCCTAG CGCCCGCTCC TTTCGCTTTC TTCCCTTCTC  
 TTCTCGCCAC GTTCGCCGGC TTTCCCGGTC AAGCTCTAAA TCGGGGGCTC CCTTTAGGGT TCCGATTTAG  
 TGCTTTACGG CACCTCGACC CCAAAAAACT TGATTTGGGT GATGGTTCAC GTAGTGGGCC ATCGCCCTGA  
 TAGACGGTTT TTCGCCCTTT GACGTTGGAG TCCACGTTCT TTAATAGTGG ACTCTTGTTT CAAACTGGAA  
 CAACACTCAA CCCTATCTCG GGCTATTCTT TTGATTTATA AGGGATTTTG CCGATTTGCG CCTATTGGTT  
 AAAAAATGAG CTGATTTAAC AAAAAATTTA CGCGAATTTT AACAAAATAT TAACGTTTAC AATTTTATGG  
 TGCACTCTCA GTACAATCTG CTCTGATGCC GCATAGTTAA GCCAGCCCGG ACACCCGCCA ACACCCGCTG  
 ACGCGCCCTG ACGGGCTTGT CTGCTCCCGG CATCCGCTTA CAGACAAGCT GTGACCGTCA ACGGGAGCTG  
 CATGTGTCAG AGGTTTTTAC CGTCATCACC GAAACGCGCG ACCCGAAAAG GCCTCGTGAT ACGCCTATTT  
 TTATAGGTTA ATGTCATGAT AATAATGGTT TCTTAGACGT CAGGTGGCAC TTTTCGGGGA AATGTGCGCG  
 GAACCCCTAT TTGTTTATTT TTCTAAATAC ATTCAAATAT GTATCCGCTC ATGAGACAAT AACCCGTGATA  
 AATGCTTCAA TAATATTGAA AAAGGAAGAG TATGAGTATT CAACATTTCC GTGTCGCCCT TATTCCCTTT  
 TTTGCGGCAT TTTGCCTTCC TGTTTTTGCT CACCCAGAAA CGCTGGTGAA AGTAAAAGAT GCTGAAGATC  
 AGTTGGGTGC ACGAGTGGGT TACATCGAAC TGGATCTCAA CAGCGGTAAG ATCCTTGAGA GTTTTCGCCC  
 CGAAGAACGT TTTCCAATGA TGAGCACTTT TAAAGTTCTG CTATGTGGCG CGGTATTATC CCGTATTGAC  
 GCCGGGCAAG AGCAACTCGG TCGCCGCATA CACTATTCTC AGAATGACTT GGTGAGTAC TCACCAGTCA  
 CAGAAAAGCA TCTTACGGAT GGCATGACAG TAAGAGAATT ATGCAGTGCT GCCATAACCA TGAGTGATAA  
 CACTGCGGCC AACTTACTTC TGACAACGAT CGGAGGACCG AAGGAGCTAA CCGCTTTTTT GCACAACATG  
 GGGGATCATG TAACTCGCCT T

**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\\_001079539](#), [NM\\_005080](#)

**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:**
