

Product datasheet for KN205859BN

OriGene Technologies, Inc.

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GRP78 (HSPA5) Human Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)

Format: 2 gRNA vectors, 1 mBFP-Neo donor, 1 scramble control

Donor DNA: mBFP-Neo

Symbol: GRP78

Locus ID: 3309

Components: KN205859G1, GRP78 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN205859G2, GRP78 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN205859BND, donor DNA containing left and right homologous arms and mBFP-Neo

functional cassette.

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: <u>NM 005347</u>

UniProt ID: P11021

Synonyms: BIP; GRP78; HEL-S-89n; MIF2

Summary: The protein encoded by this gene is a member of the heat shock protein 70 (HSP70) family.

This protein localizes to the lumen of the endoplasmic reticulum (ER) where it operates as a typical HSP70 chaperone involved in the folding and assembly of proteins in the ER and is a master regulator of ER homeostasis. During cellular stress, as during viral infection or tumorogenesis, this protein interacts with the transmembrane stress sensor proteins PERK (protein kinase R-like endoplasmic reticulum kinase), IRE1 (inositol-requiring kinase 1), and

ATF6 (activating transcription factor 6) where it acts as a repressor of the unfolded protein response (UPR) and also plays a role in cellular apoptosis and senescence. Elevated

expression and atypical translocation of this protein to the cell surface has been reported in viral infections and some types of cancer cells. At the cell surface this protein may facilitate viral attachment and entry to host cells. This gene is a therapeutic target for the treatment of

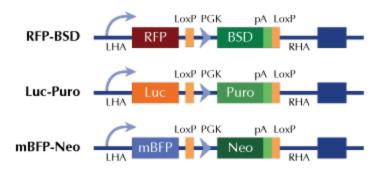
coronavirus diseases and chemoresistant cancers. [provided by RefSeq, Jul 2020]





Product images:

Donor Vector Edited Chromosome



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