

Recombinant Mouse BiP Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51302

Size: 10ug, 100ug

Protein Name: Endoplasmic reticulum chaperone BiP (EC 3.6.4.10) (78 kDa glucose-regulated protein) (GRP-78) (Binding-immunoglobulin protein) (BiP) (Heat shock protein 70 family protein 5) (HSP70 family protein 5) (Heat shock protein family A member 5) (Immunoglobulin heavy chain-binding protein)

Synonym: Hspa5, Grp78

UniProt ID: P20029

UniProt Link: www.uniprot.org/uniprotkb/P20029/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 655 AA

Molecular Weight: 72 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MMKFTVVAAALLLLGAVRAEEEDKKEDVGTVVGIDLGTTYSCVGVFKNGRVEIANDQGNNRITPSYVA
FTPEGERLIGDAAKNQLTSNPENTVFDARLIGRTWNDPSVQQDIKFLPFKVVEKTKPYIQVDIGGG
QTKTFAPEEISAMVLTKMKETAAYLGKKVTHAVVTPAYFNDAQRQATKDAGTIAGLNVMRIINEPT
AAAIAYGLDKREGEKNILVFDLGGGTFDVSLLTIDNGVFEVVATNGDTHLGGEDFDQVRMEHFIKLYK
KKTGKDVRKDNRAVQKLREVEKAKRALSSQHQARIEIESFFEGEDFSETLTRAKEELNMDLFRST
MKPVQKVLESDLLKSDIDEIVLVGGSTRIPKIQQLVKEFFNGKEPSRGINPDEAVAYGAHVQAGVLS
GDQDTGDLVLLDVCPLTLGIETVGGVMTKLIPRNTVVPTKKSQIFSTASDNQPTVTIKVYEGERPLTK
DNHLLGTFDLTGIPPAPRGVPQIEVTFEIDVNGILRVTAEDKGTGNKNKITITNDQNRLTPEEIERMVN
DAEKFAEEDKKLKERIDTRNELESYAYSLKNQIGDKEKLGGLSSEDKETMEKAVEEKIEWLESHQD
ADIEDFKAKKKELEEIVQPIISKLYGSGGPPPTGEEDTSEKDEL

3. Buffer Composition



Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Endoplasmic reticulum chaperone BiP (EC 3.6.4.10) (78 kDa glucose-regulated protein) (GRP-78) (Binding-immunoglobulin protein) (BiP) (Heat shock protein 70 family protein 5) (HSP70 family protein 5) (Heat shock protein family A member 5) (Immunoglobulin heavy chain-binding protein) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (PubMed:12411443, PubMed:12475965). Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10/ERdj5, probably to facilitate the release of DNAJC10/ERdj5 from its substrate (PubMed:12411443). Acts as a key repressor of the EIF2AK3/PERK and ERN1/IRE1-mediated unfolded protein response (UPR) (PubMed:10854322). In the unstressed endoplasmic reticulum, recruited by DNAJB9/ERdj4 to the luminal region of ERN1/IRE1, leading to disrupt the dimerization of ERN1/IRE1, thereby inactivating ERN1/IRE1 (By similarity). Also binds and inactivates EIF2AK3/PERK in unstressed cells (PubMed:10854322). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1 and EIF2AK3/PERK, allowing their homodimerization and subsequent activation (PubMed:10854322). Plays an auxiliary role in post-translational transport of small presecretory proteins across endoplasmic reticulum (ER). May function as an allosteric modulator for SEC61 channel-forming translocon complex, likely cooperating with SEC62 to enable the productive insertion of these precursors into SEC61 channel. Appears to specifically regulate translocation of precursors having inhibitory residues in their mature region that weaken channel gating. May also play a role in apoptosis and cell proliferation (By similarity).

Subcellular Localization: Endoplasmic reticulum lumen . Melanosome . Cytoplasm . Cell surface. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (By similarity). Localizes to the cell surface in epithelial cells; high levels of free iron promotes cell surface localization (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.