

# Recombinant human heat shock protein 70 family protein 5 protein, His tagged

**Cat. No.** HSPA5-23H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Product Overview</b> | Recombinant human BIP protein, fused to His-tag at C-terminus, was expressed in Hi-5 cell using baculovirus expression system and purified by using conventional chromatography.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Source</b>           | Insect Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ProteinLength</b>    | 20-650 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>      | <p>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 tumorigenesis, 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</p> |

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|                       | cancers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Tag</b>            | C-His                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Form</b>           | Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Molecular Mass</b> | 71 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>AA Sequence</b>    | <p>MEEDKKEDVGTVVGIDLGTTYSCVGVFKNGRVEIIANDQGNRITPSYVAFTPEGERLI<br/> GDAAKNQLTSNPENTVFDKRLIGRTWNDPSVQQDIKFLPFKVVEKTKPYIQVDIG<br/> GGQTKTFAPEEISAMVLTKMKETAAYLGKKVTHAVVTPAYFNDAQRQATKDAGTI<br/> AGLNVMRIINEPTAAAIAYGLDKREGEKNILVFDLGGGTFDVSLLTIDNGVFEVVATNG<br/> DTHLGGEDFDQRMVMEHFIKLYKKKTGKDVRKDNRAVQKLRREVEKAKRALSSQH<br/> ARIEIESFYEGEDFSETLTRAKFEELNMDLFRSTMKPVQKVLEDSDLKKSDIDEIVLVG<br/> GSTRIPIQQLVKEFFNGKEPSRGINPDEAVAYGAAGVLSGDQDTGDLVLLDVC<br/> PLTLGIETVGGVMTKLIPRNTVVPTKKSQIFSTASDNQPTVTIKVYEGERPLTKDNHLL<br/> GTFDLTGIPPAPRGVPQIEVTFEIDVNGILRVTAEDKGTGNKNKITITNDQNRLTPEEIE<br/> RMVNDAAEKFAEEDKKLKERIDTRNELESYAYSLKNQIGDKEKLGGKLSSSEDKETMEK<br/> AVEEKIEWLESHQDADIEDFKAKKKELEEIVQPIISKLYGSAGPPPTGEEDTAE&lt; LEH<br/> HHHHH&gt;</p> |
| <b>Endotoxin</b>      | < 1 EU/μg of protein determined by LAL method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Purity</b>         | > 90% by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Applications</b>   | SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Storage</b>        | Can be stored at +2 to +8 centigrade for 1 week. For long term storage, aliquot and store at -20 to -80 centigrade. Avoid repeated freezing and thawing cycles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Concentration</b>  | 1 mg/mL (determined by Bradford assay)                                                                                 |
| <b>Storage Buffer</b> | 20mM Tris-HCl buffer (pH 8.0) containing 10% glycerol, 2mM DTT, 200mM NaCl                                             |
| <b>References</b>     | 1. Lee LC., et al. (2009) Clin Chim Acta. 400(1-2):56-62.<br>2. Racek T., et al. (2008) J Biol Chem. 283(49):34305-14. |

## GENE INFORMATION

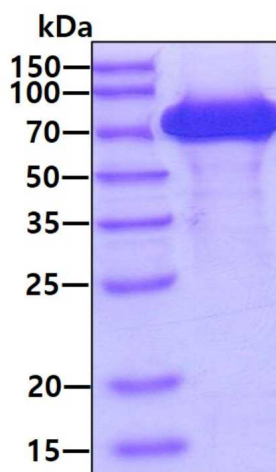
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | HSPA5 heat shock protein family A (Hsp70) member 5 [ Homo sapiens (human) ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Official Symbol</b> | HSPA5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Synonyms</b>        | HSPA5; heat shock protein family A (Hsp70) member 5; BIP; GRP78; HEL-S-89n; endoplasmic reticulum chaperone BiP; ; 78 kDa glucose-regulated protein; HSP70 family protein 5; binding-immunoglobulin protein; endoplasmic reticulum luminal Ca(2+)-binding protein grp78; epididymis secretory sperm binding protein Li 89n; glucose-regulated protein, 78kDa; heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa); heat shock protein 70 family protein 5; heat shock protein family A member 5; immunoglobulin heavy chain-binding protein; ; EC 3.6.4.10 |
| <b>Gene ID</b>         | 3309                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>mRNA Refseq</b>     | NM_005347                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Protein Refseq</b>  | NP_005338                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>MIM</b>             | 138120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>UniProt ID</b>      | P11021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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## SDS-PAGE



3  $\mu$ g by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

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