

Recombinant Human, HSPA5 His-tagged

Cat. No. HSPA5-3677H Lot. No. (See product label)

SPECIFICATION

Product Overview	Total 646 AA. MW: 71.72 kDa (calculated). N-Terminal His-tag, 10 extra AA (highlighted).
Species	Human
Source	E.coli
Description	<p>Binding immunoglobulin protein (BiP) also known as 78 kDa glucose-regulated protein (GRP-78) or heat shock 70 kDa protein 5 (HSPA5) is a HSP70 molecular chaperone located in the lumen of the endoplasmic reticulum (ER), that binds newly-synthesized proteins as they are translocated into the ER and maintains them in a state competent for subsequent folding and oligomerization. BiP is also an essential component of the translocation machinery, as well as playing a role in retrograde transport across the ER membrane of aberrant proteins destined for degradation by the proteasome. BiP is an abundant protein under all growth conditions, but its synthesis is markedly induced under conditions that lead to the accumulation of unfolded polypeptides in the ER. In humans, BiP is encoded by the HSPA5 gene.</p>
Form	Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 50mM NaCl, pH 7.5
Reconstitution	Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.
Applications	Western blotting

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Quality Control Test BCA to determine quantity of the protein; SDS PAGE to determine purity of the protein.

Sequences of amino acids

MKHHHHHHAS EEEDKKEDVG TVVGIDLGTT YSCVGVFKNG RVEIIANDQG
 NRITPSYVAF TPEGERLIGD AAKNQLTSNP ENTVFDAKRL IGRTWNDPSV
 QQDIKFLPFK VVEKKTTPYI QVDIGGGQTK TFAPEEISAM VLTKMKETAE
 AYLGKKVTHA VVTVPAYFND AQRQATKDAG TIAGLNMRI INEPTAAAIA
 YGLDKREGEK NILVFDLGGG TFDVSLLTID NGVFEVVATN GDTHLGGEDF
 DQRVMEHFIK LYKKKTGKDV RKDNRAVQKL RREVEKAKRA LSSQHQARIE
 IESFYEGEDF SETLTRAKFE ELNMDLFRST MKPVQKVLED SDLKKSIDIE
 IVLVGGSTRI PKIQQLVKEF FNGKEPSRGI NPDEAVAYGA AVQAGVLSGD
 QDTGDLVLLD VCPLTLGIET VGGVMTKLIP RNTVVPTKKS QIFSTASDNQ
 PVTIKVYEG ERPLTKDNHL LGTFDLTGIP PAPRGVPQIE VTFEIDVNGI
 LRVTAEDKGT GNKNKITITN DQNRLTPEEI ERMVNDAEFK AEEDKKLKER
 IDTRNELESY AYSLKNQIGD KEKLGKGLSS EDKETMEKAV EEKIEWLESH
 QDADIEDFKA KKKELEEIVQ PIISKLYGSA GPPPTGEEDT AEKDEL

Storage Store lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°C. Aliquo treconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

GENE INFORMATION

Gene Name HSPA5 heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa) [Homo sapiens]

Official Symbol HSPA5

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Synonyms	HSPA5; heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa); HSPA5 heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa); BIP; MIF2; GRP78; GRP 78; FLJ26106; BiP; OTTHUMP00000022124; Heat shock 70 kDa protein 5; Endoplasmic reticulum luminal Ca(2+)-binding protein grp78; Heat-shock 70kD protein-5 (glucose-regulated protein, 78kD); Immunoglobulin heavy chain-binding protein; heat shock 70kD protein 5 (glucose-regulated protein, 78kD); heat shock 70kDa protein 5
Gene ID	3309
mRNA Refseq	NM_005347
Protein Refseq	NP_005338
MIM	138120
UniProt ID	P11021
Chromosome Location	9q33-q34.1
Pathway	Antigen processing and presentation; Neurodegenerative Disorders; Prion disease; Hemostasis.
Function	ATP binding; calcium ion binding; caspase inhibitor activity; nucleotide binding; protein binding, bridging; ribosome binding; unfolded protein binding.

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