

Hsp70 Recombinant Protein | HSPA1A recombinant protein

Recombinant Human HSP70 (native, endotoxin-free)

CATALOG # AAA103774	HOST Baculovirus/Sf9 cells	APPLICATIONS ELISA, Functional Assay, SDS-Page, Western Blot
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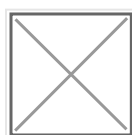
PRODUCT SYNONYMS

Hsp70; Recombinant Human HSP70 (native; endotoxin-free); Hsp70 1; Hsp70 2; Hsp70.1; Hsp72; Hsp73; HSPA1; HSPA1A; HSPA1B; HSPA1A recombinant protein

PRODUCT SPECIFICATIONS

Host	Baculovirus/Sf9 cells
Purity/Purification	Endotoxin-free, Multi-Step Purified
Form/Format	50mM Tris/HCl pH7.5, 2.5mM Bme, 0.15M NaCl, 10% glycerol
Concentration	1mg/mL (varies by lot)
Sequence Length	641
Applicable Applications for HSPA1A recombinant protein	ELISA, FA (Functional Assay), SDS-PAGE, WB (Western Blot)
Certificate of Analysis	This product has been certified >90% pure using SDS-PAGE analysis. The protein tested positive for ATPase activity using a Malachite Green assay.
Conjugate Tag	No tags
Expression System	Baculovirus/Hi5 insect cells
Cellular Localization	Cytoplasm
Research Area(s)	Cancer; Heat Shock
Preparation and Storage	Store at -20 degree C. Avoid freeze/ thaw cycle.

IMAGES



SDS-PAGE

SDS-PAGE of endotoxin-free 70kDa native human Hsp70 protein (SPR-117).

ADDITIONAL INFORMATION

Related Product Information for HSPA1A recombinant protein	Scientific Background: Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity (2). The N-terminal two thirds of hsp70s are more conserved than the C-terminal third. Hsp70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides (3). When hsc70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5). All hsp70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein (6). The universal ability of hsp70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.
Product Categories/Family for HSPA1A recombinant protein	Chaperones; Heat Shock; Trafficking
References	1. Zho, J. (1998). Cell 94: 471-480. 2. Boorstein, W. R., Ziegelhoffer, T. & Craig, E. A. (1993), J. Mol. Evol.38 (1) 1-17. 3. Rothman, J. (1989), Cell 59, 591 -601. 4. DeLuca-Flaherty et al. (1990), Cell 62, 875-887. 5. Bork, P., Sander, C. & Valencia, A. (1992), Proc. Nut1 Acad. Sci. USA 89, 7290-7294. 6. Fink, A.L. (1999) Physiol. Rev. 79: 425-449.

NCBI AND UNIPROT INFORMATION

NCBI GI #	194248072
NCBI GeneID	3303
NCBI Accession #	NP_005336.3
NCBI GenBank Nucleotide #	NM_005345.5
UniProt Accession #	P08107; P19790; Q5JQI4; Q5SP17; Q9UQL9; Q9UQM0; B4E3B6
Molecular Weight	Approximately 70kD
NCBI Official Full Name	heat shock 70 kDa protein 1A/1B
NCBI Official Synonym Full Names	heat shock 70kDa protein 1A
NCBI Official Symbol	HSPA1A
NCBI Official Synonym Symbols	HSP72; HSPA1; HSP70I; HSP70-1; HSP70-1A; HEL-S-103
NCBI Protein Information	heat shock 70 kDa protein 1A/1B; HSP70-1/HSP70-2; heat shock 70kD protein 1A; heat shock-induced protein; heat shock 70 kDa protein 1/2; epididymis secretory protein Li 103; dnaK-type molecular chaperone HSP70-1
UniProt Protein Name	Heat shock 70 kDa protein 1A/1B
UniProt Gene Name	HSPA1A
UniProt Synonym Gene Names	HSPA1; HSX70 HSPA1B; HSP70-1/HSP70-2; HSP70.1/HSP70.2
UniProt Entry Name	HSP71_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.