HSPA1A Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	HSPA1A, Polyclonal Antibody
Full Product Name	HSPA1A Antibody, HRP conjugated
Product Gene Name	anti-HSPA1A antibody
Product Synonym Names	Heat shock 70 kDa protein 1A; Heat shock 70 kDa protein 1; HSP70-12; s; HSPA1A; HSP721 Publication
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid
Purity/Purification	>95%, Protein G purified
Preparation and Storage	Upon receipt, store at -20 degree C or -80 degree C. Avoid repeated freeze.
Matching Pairs	Unconjugated Antibody: HSPA1A (MBS7105961) HRP Conjugated Antibody: HSPA1A (MBS7105962)
Molecular Weight	63,937 Da
OMIM	M11717 Genomic DNA
3D Structure	ModBase 3D Structure for P0DMV8
Immunogen	Recombinant Human Heat shock 70 kDa protein 1A protein (418-512AA)
Conjugation	HRP
Buffer	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, pH 7.4
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-HSPA1A antibody	ELISA (EIA)

Related Product Information for anti-HSPA1A antibody	Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The co-chaperones have been shown to not only regulate different steps of the ATPase cycle, but they also have an individual specificity such that one co-chaperone may promote folding of a substrate while another may promote degradation. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release. The co-chaperones are of three types: J-domain co-chaperones such as HSP40s (stimulate ATPase hydrolysis by HSP70), the nucleotide exchange factors (NEF) such as BAG1/2/3 (facilitate conversion of HSP70 from the ADP-bound to the ATP-bound state thereby promoting substrate release), and the TPR domain chaperones such as HOPX and STUB1 (PubMed:24012426, PubMed:26865365, PubMed:24318877). Maintains protein homeostasis during cellular stress through two opposing mechanisms: protein refolding and degradation. Its acetylation/deacetylation state determines whether it functions in protein refolding or protein degradation by controlling the competitive binding of co-chaperones HOPX and STUB1. During the early stress response, the acetylated form binds to HOPX which assists in chaperone-mediated protein refolding, thereafter, it is deacetylated and binds to ubiquitin ligase STUB1 that promotes ubiquitin-mediated protein degradation (PubMed:27708256). Regulates centrosome integrity during mitosis, and is required for the maintenance of a functional mitotic centrosome that supports the assembly of a bipolar mitotic spindle (PubMed:27137183). Enhances STUB1-mediated SMAD3 ubiquitination and degradation and facilitates STUB1-mediated inhibition of TGF-beta signaling (PubMed:24613385). Essential for STUB1-mediated ubiquitination and degradation of FOXP3 in regulatory T-cells (Treg) during inflammation (PubMed:23973223). Negatively regulates heat shock-induced HSF1 transcriptional activity during the attenuation and recovery phase period of the heat shock response (PubMed:9499401).
Other Notes	Small volumes of anti-HSPA1A antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for HSPA1A purchase	MBS7105962 is an antibody targeting HSPA1A. Also known as HSPA1A Antibody, HRP conjugated. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HSPA1A. It may not necessarily be applicable to this product.

NCBI GI #	194248072
NCBI GeneID	3303
NCBI Accession #	NP_005336.3
UniProt Primary Accession #	P0DMV8
UniProt Secondary Accession #	P08107; P19790; Q5JQI4; Q5SP17; Q9UQL9; Q9UQM0; B4E3B6
UniProt Related Accession #	P0DMV8
GenBank Nucleotide #	NM_005345.5
NCBI Official Full Name	heat shock 70 kDa protein 1A
NCBI Official Synonym Full Names	heat shock protein family A (Hsp70) member 1A
NCBI Official Symbol	HSPA1A
NCBI Official Synonym Symbols	HSP72; HSPA1; HSP70I; HSP70-1; HSP70.1; HSP70-1A; HEL-S-103
UniProt Protein Name	Heat shock 70 kDa protein 1A
UniProt Synonym Protein Names	Heat shock 70 kDa protein 1; HSP70-1
Protein Family	Heat shock 70 kDa protein
UniProt Gene Name	HSPA1A

UniProt Synonym Gene Names	; HSP70.1
NCBI Protein Information	heat shock 70 kDa protein 1A
NCBI Summary for HSPA1A	This intronless gene encodes a 70kDa heat shock protein which is a member of the heat shock protein 70 family. In conjuction with other heat shock proteins, this protein stabilizes existing proteins against aggregation and mediates the folding of newly translated proteins in the cytosol and in organelles. It is also involved in the ubiquitin-proteasome pathway through interaction with the AU-rich element RNA-binding protein 1. The gene is located in the major histocompatibility complex class III region, in a cluster with two closely related genes which encode similar proteins. [provided by RefSeq, Jul 2008]
Research Articles on HSPA1A	**1.** measurable HSP72 was not associated with graft versus host disease following allogeneic hematopoietic cell transplantation
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