

Rabbit HSP90AA1 Polyclonal Antibody | anti-HSP90AA1 antibody

HSP90AA1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA325890	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

HSP90AA1; Polyclonal Antibody; HSP90AA1 Antibody; EL52; epididymis luminal secretory protein 52; Heat shock 86 kDa; heat shock 90kD protein 1; alpha; Heat shock 90kD protein 1; alpha like 4; heat shock 90kD protein; alpha-like 4; Heat shock 90kDa protein 1 alpha; Heat shock protein 90kDa alpha (cytosolic) class A member 1; Heat shock protein HSP 90-alpha; HS90A_HUMAN; HSP 86; HSP86; Hsp89; HSP89A; Hsp90; HSP90A; HSP90ALPHA; HSP90N; HSPC1; HSPCA; HSPCAL1; HSPCAL4; HSPN; LAP 2; LAP2; lipopolysaccharide-associated protein 2; LPS-associated protein 2; Renal carcinoma antigen NY-REN-38; anti-HSP90AA1 antibody

PRODUCT SPECIFICATIONS

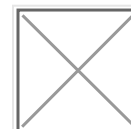
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	HSP90AA1 antibody detects endogenous levels of total HSP90AA1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	854
Applicable Applications for anti-HSP90AA1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	N term-peptide of human HSP90AA1
Subcellular Location	Cytoplasm. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



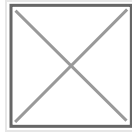
WB (Western Blot)

Western blot analysis of Y79 lysate using HSP90A antibody. The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA325890 staining NIH-3T3 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA325890 at 1/100 staining Mouse lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-HSP90AA1 antibody

Description: HSP70 and HSP90 are molecular chaperones expressed constitutively under normal conditions to maintain protein homeostasis and are induced upon environmental stress (1). Both HSP70 and HSP90 are able to interact with unfolded proteins to prevent irreversible aggregation and catalyze the refolding of their substrates in an ATP- and co-chaperone-dependent manner (1). HSP70 has a broad range of substrates including newly synthesized and denatured proteins, while HSP90 tends to have a more limited subset of substrates, most of which are signaling molecules. HSP70 and HSP90 often function collaboratively in a multi-chaperone system, which requires a minimal set of co-chaperones: HSP40, Hop, and p23 (2, 3). The co-chaperones either regulate the intrinsic ATPase activity of the chaperones or recruit chaperones to specific substrates or subcellular compartments (1, 4). When the ubiquitin ligase CHIP associates with the HSP70/HSP90 complex as a cofactor, the unfolded substrates are subjected to degradation by the proteasome (4). The biological functions of HSP70/HSP90 extend beyond their chaperone activity. They are essential for the maturation and inactivation of nuclear hormones and other signaling molecules (1, 3). They also play a role in vesicle formation and protein trafficking (2).

Function: Molecular chaperone that promotes the maturation, structural maintenance and proper regulation of specific target proteins involved for instance in cell cycle control and signal transduction. Undergoes a functional cycle that is linked to its ATPase activity which is essential for its chaperone activity. This cycle probably induces conformational changes in the client proteins, thereby causing their activation. Interacts dynamically with various co-chaperones that modulate its substrate recognition, ATPase cycle and chaperone function (PubMed:11274138, PubMed:15577939, PubMed:15937123, PubMed:27353360, PubMed:29127155). Engages with a range of client protein classes via its interaction with various co-chaperone proteins or complexes, that act as adapters, simultaneously able to interact with the specific client and the central chaperone itself (PubMed:29127155).

Recruitment of ATP and co-chaperone followed by client protein forms a functional chaperone. After the completion of the chaperoning process, properly folded client protein and co-chaperone leave HSP90 in an ADP-bound partially open conformation and finally, ADP is released from HSP90 which acquires an open conformation for the next cycle (PubMed:27295069, PubMed:26991466). Apart from its chaperone activity, it also plays a role in the regulation of the transcription machinery. HSP90 and its co-chaperones modulate transcription at least at three different levels (PubMed:25973397). In the first place, they alter the steady-state levels of certain transcription factors in response to various physiological cues (PubMed:25973397). Second, they modulate the activity of certain epigenetic modifiers, such as histone deacetylases or DNA methyl transferases, and thereby respond to the change in the environment (PubMed:25973397). Third, they participate in the eviction of histones from the promoter region of certain genes and thereby turn on gene expression (PubMed:25973397). Binds bacterial lipopolysaccharide (LPS) and mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205). Antagonizes STUB1-mediated inhibition of TGF-beta signaling via inhibition of STUB1-mediated SMAD3 ubiquitination and degradation (PubMed:24613385).

Subunit Structure: Homodimer (PubMed:7588731, PubMed:8289821, PubMed:18400751, PubMed:29127155). Identified in NR3C1/GCR steroid receptor-chaperone complexes formed at least by NR3C1, HSP90AA1 and a variety of proteins containing TPR repeats such as FKBP4, FKBP5, PPIID, PPP5C or STIP1 (PubMed:15383005, PubMed:9195923). Forms a complex containing HSP90AA1, TSC1 and TSC2; TSC1 is required to recruit TSC2 to the complex (PubMed:29127155). The closed form interacts (via the middle domain and TPR repeat-binding motif) with co-chaperone TSC1 (via C-terminus) (PubMed:29127155). Interacts with TOM34 (PubMed:9660753). Interacts with TERT; the interaction, together with PTGES3, is required for correct assembly and stabilization of the TERT holoenzyme complex (PubMed:11274138, PubMed:9817749). Interacts with CHORDC1 and DNAJC7 (PubMed:12853476, PubMed:19875381). Interacts with STUB1 and UBE2N; may couple the chaperone and ubiquitination systems (PubMed:16307917, PubMed:27353360). Interacts (via TPR repeat-binding motif) with PPP5C (via TPR repeats); the interaction is direct and activates PPP5C phosphatase activity (PubMed:15383005, PubMed:15577939, PubMed:16531226, PubMed:27353360). Following LPS binding, may form a complex with CXCR4, GDF5 and HSPA8 (PubMed:11276205). Interacts with KSR1 (PubMed:10409742). Interacts with co-chaperone CDC37 (via C-terminus); the interaction inhibits HSP90AA1 ATPase activity (PubMed:23569206, PubMed:27353360). May interact with NWD1 (PubMed:24681825). Interacts with FNIP1 and FNIP2; the interaction inhibits HSP90AA1 ATPase activity (PubMed:17028174, PubMed:27353360). Interacts with co-chaperone AHSA1 (phosphorylated on "Tyr-223"); the interaction activates HSP90AA1 ATPase activity and results in the dissociation of TSC1 from HSP90AA1 (PubMed:12604615, PubMed:27353360, PubMed:29127155). Interacts with FLCN in the presence of FNIP1 (PubMed:27353360). Interacts with HSP70, STIP1 and PTGES3 (PubMed:27353360). Interacts with SMYD3; this interaction enhances SMYD3 histone-lysine N-methyltransferase (PubMed:15235609, PubMed:25738358). Interacts with SGTA (via TPR repeats) (PubMed:15708368). Interacts with TTC1 (via TPR repeats) (PubMed:15708368). Interacts with HSF1 in an ATP-dependent manner (PubMed:11583998, PubMed:26517842). Interacts with MET; the interaction suppresses MET kinase activity (PubMed:26517842). Interacts with ERBB2 in an ATP-dependent manner; the interaction suppresses ERBB2 kinase activity (PubMed:26517842). Interacts with HIF1A, KEAP1 and RHOB2 (PubMed:26517842). Interacts with HSF1; this interaction is decreased in a IER5-dependent manner, promoting HSF1 accumulation in the nucleus, homotrimerization and DNA-binding activities (PubMed:26754925). Interacts with STUB1 and SMAD3 (PubMed:24613385). Interacts with HSP90AB1; interaction is constitutive (PubMed:20353823). Interacts with HECTD1 (via N-terminus) (By similarity).

Post-translational Modifications: ISGylated. S-nitrosylated; negatively regulates the ATPase activity and the activation of eNOS by HSP90AA1. Ubiquitinated via 'Lys-63'-linked polyubiquitination by HECTD1. Ubiquitination promotes translocation into the cytoplasm away from the membrane and secretory pathways.

Similarity: The TPR repeat-binding motif mediates interaction with TPR repeat-containing proteins like the co-chaperone STUB1. Belongs to the heat shock protein 90 family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	153792590
NCBI GeneID	3320
NCBI Accession #	NP_001017963.2
NCBI GenBank Nucleotide #	NM_001017963.2
UniProt Accession #	P07900; Q2PP14; Q5CAQ6; Q5CAQ7; Q9BVQ5; A8K500; B3KPJ9
Molecular Weight	Observed: 90 kDa Predicted: 85 kDa
NCBI Official Full Name	heat shock protein HSP 90-alpha isoform 1
NCBI Official Synonym Full Names	heat shock protein 90 alpha family class A member 1
NCBI Official Symbol	HSP90AA1
NCBI Official Synonym Symbols	EL52; HSPN; LAP2; HSP86; HSPC1; HSPCA; Hsp89; Hsp90; LAP-2; HSP89A; HSP90A; HSP90N; Hsp103; HSPCAL1; HSPCAL4; HEL-S-65p
NCBI Protein Information	heat shock protein HSP 90-alpha
UniProt Protein Name	Heat shock protein HSP 90-alpha
UniProt Gene Name	HSP90AA1
UniProt Synonym Gene Names	HSP90A; HSPC1; HSPCA; HSP 86; HSP86; LAP-2; LPS-associated protein 2

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.

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