

## HSP90AA1 Protein, Human (His-SUMO)

<b>Cat. No.:</b>	HY-P72238
<b>Synonyms:</b>	Heat shock 86 kDa; Heat shock protein 90kDa alpha cytosolic class A member 1; Heat shock protein 90kDa alpha cytosolic class B member 1; Heat shock protein HSP 90 alpha ; Heat shock protein HSP 90 beta; Heat shock protein HSP 90-alpha; HS90A_HUMAN; HSP 84; HSP 86; Hsp 90; HSP86; HSP90A; HSP90AA1; HSP90AB1; HSP90B; HSPC1; HSPC2; HSPCAL1 ; HSPCAL4; Renal carcinoma antigen NY-REN-38
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	P07900 (D9-D232)
<b>Gene ID:</b>	3320
<b>Molecular Weight:</b>	Approximately 43 kDa

### PROPERTIES

<b>AA Sequence</b>	<p>D Q P M E E E E V E      T F A F Q A E I A Q      L M S L I I N T F Y      S N K E I F L R E L</p> <p>I S N S S D A L D K      I R Y E S L T D P S      K L D S G K E L H I      N L I P N K Q D R T</p> <p>L T I V D T G I G M      T K A D L I N N L G      T I A K S G T K A F      M E A L Q A G A D I</p> <p>S M I G Q F G V G F      Y S A Y L V A E K V      T V I T K H N D D E      Q Y A W E S S A G G</p> <p>S F T V R T D T G E      P M G R G T K V I L      H L K E D Q T E Y L      E E R R I K E I V K</p> <p>K H S Q F I G Y P I      T L F V E K E R D K      E V S D</p>
<b>Biological Activity</b>	Data is not available.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0l or 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	HSP90AA1 protein, a molecular chaperone, plays a crucial role in the maturation, structural maintenance, and regulation of specific target proteins involved in cell cycle control and signal transduction. Operating through a functional cycle linked to
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its ATPase activity, essential for its chaperone function, HSP90AA1 induces conformational changes in client proteins, activating them. Dynamic interactions with co-chaperones modulate substrate recognition, the ATPase cycle, and chaperone function. Engaging with diverse client protein classes through co-chaperones, it forms functional chaperones that release properly folded client proteins and co-chaperones in an ADP-bound partially open conformation. Apart from its chaperone activity, HSP90AA1 plays a critical role in mitochondrial import by delivering preproteins to the mitochondrial import receptor TOMM70. It also contributes to the regulation of the transcription machinery at multiple levels, altering transcription factor levels, modulating epigenetic modifiers, and participating in histone eviction from gene promoters. Furthermore, HSP90AA1 binds bacterial lipopolysaccharide, mediating LPS-induced inflammatory responses, including TNF secretion. It antagonizes STUB1-mediated inhibition of TGF-beta signaling and facilitates the association of TOMM70 with IRF3 or TBK1 in the mitochondrial outer membrane, promoting host antiviral responses. In the context of microbial infection, HSP90AA1 interferes with *N.meningitidis* NadA-mediated invasion of human cells, influencing the adhesion and entry of *E.coli* expressing NadA into human Chang cells based on its expression levels.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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