



HSP90AA1 Recombinant Monoclonal Antibody

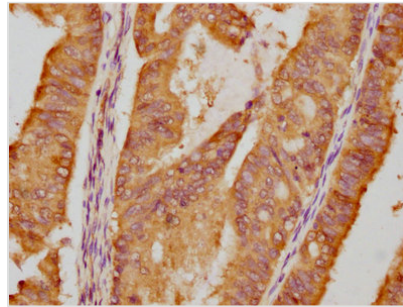
Product Code	CSB-RA011087A1HU
Abbreviation	Heat shock protein HSP 90-alpha
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P07900
Immunogen	A synthesized peptide derived from human HSP90AA1
Species Reactivity	Human
Tested Applications	ELISA, IHC, IF; Recommended dilution: IHC:1:50-1:200, IF:1:20-1:200
Relevance	<p>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).</p>
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium



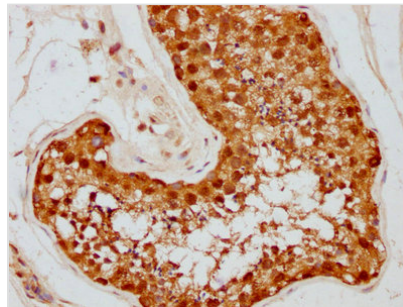
azide and 50% glycerol.

Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Heat shock protein HSP 90-alpha, Heat shock 86 kDa, HSP 86, HSP86, Lipopolysaccharide-associated protein 2, LAP-2, LPS-associated protein 2, Renal carcinoma antigen NY-REN-38, HSP90AA1, HSP90A, HSPC1, HSPCA
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	HSP90AA1
Clone No.	4F8

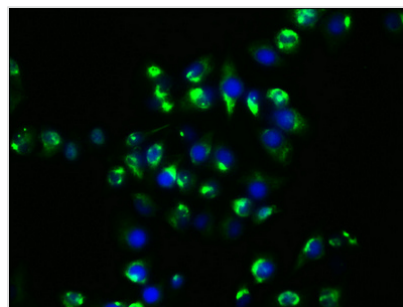
Image



IHC image of CSB-RA011087A1HU diluted at 1:87.5 and staining in paraffin-embedded human endometrial cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



IHC image of CSB-RA011087A1HU diluted at 1:87.5 and staining in paraffin-embedded human testis tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunofluorescence staining of Hela cells with CSB-RA011087A1HU at 1:29, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

The HSP90AA1 recombinant monoclonal antibody is generated using DNA recombinant technology and in vitro genetic manipulation. Initially, an animal is



immunized with a synthesized peptide derived from human HSP90AA1, leading to the isolation and selection of B cells. The positive B cells are screened and subjected to single clone identification. The light and heavy chains of the HSP90AA1 antibody are then amplified through PCR and inserted into a plasmid vector, creating a recombinant vector. This vector is introduced into a host cell line for antibody expression. The HSP90AA1 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. This antibody exhibits specific binding to human HSP90AA1 protein and is recommended for use in ELISA, IHC, and IF applications.

The HSP90AA1 protein mainly acts as a chaperone protein that helps other proteins fold correctly and maintain their functional conformation. HSP90AA1 is involved in multiple cellular processes, including signal transduction, protein degradation, DNA repair, and cell cycle control. In addition to its role as a chaperone, HSP90AA1 is also involved in the assembly and activation of several important signaling complexes, including steroid hormone receptors, kinases, and transcription factors. It helps to stabilize these complexes, allowing them to transduce signals more effectively and regulate downstream gene expression.