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HSP90AA1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1706a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P07900
Reactivity	Human, Mouse, Monkey
Host	Mouse
Clonality	Monoclonal
Clone Names	5G5
Isotype	IgG1
Calculated MW	84660
Description	HSP90 proteins are highly conserved molecular chaperones that have key roles in signal transduction, protein folding, protein degradation, and morphologic evolution. HSP90 proteins normally associate with other cochaperones and play important roles in folding newly synthesized proteins or stabilizing and refolding denatured proteins after stress. There are 2 major cytosolic HSP90 proteins, HSP90AA1, an inducible form, and HSP90AB1 (MIM 140572), a constitutive form. Other HSP90 proteins are found in endoplasmic reticulum (HSP90B1; MIM 191175) and mitochondria (TRAP1; MIM 606219) (Chen et al., 2005 [PubMed 16269234]).
Immunogen	Purified recombinant fragment of human HSP90AA1 expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	3320
Other Names	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
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HSP90AA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

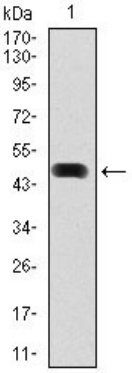
Name	HSP90AA1 (HGNC:5253)
Synonyms	HSP90A, HSPC1, HSPCA
Function	Molecular chaperone that promotes the maturation, structural maintenance and proper regulation of specific target proteins involved for instance in cell cycle control and signal transduction. Undergoes a functional cycle that is linked 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:12526792, 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:26991466, PubMed:27295069). Plays a critical role in mitochondrial import, delivers preproteins to the mitochondrial import receptor TOMM70 (PubMed:12526792). 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). Mediates the association of TOMM70 with IRF3 or TBK1 in mitochondrial outer membrane which promotes host antiviral response (PubMed:20628368, PubMed:25609812).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:P07901}. Cytoplasm {ECO:0000250|UniProtKB:P07901}. Melanosome. Cell membrane. Mitochondrion. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV

References

Mol Biol Cell. 2010 May 1;21(9):1462-9. Mol Cancer Ther. 2009 Dec;8(12):3296-306.

Images

Figure 1: Western blot analysis using HSP90AA1 mAb against human HSP90AA1 (AA: 275-484) recombinant protein. (Expected MW is 50.5 kDa)



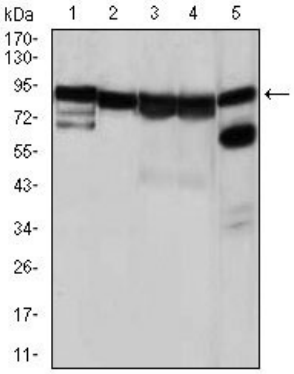


Figure 2: Western blot analysis using HSP90AA1 mouse mAb against NIH3T3 (1), HeLa (2), HCT116(3), HL-60 (4) and C0S7 (5) cell lysate.

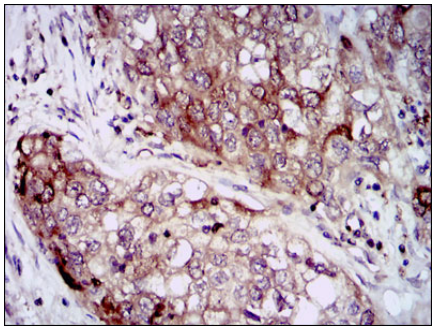


Figure 3: Immunohistochemical analysis of paraffin-embedded lung cancer tissues using HSP90AA1 mouse mAb with DAB staining.

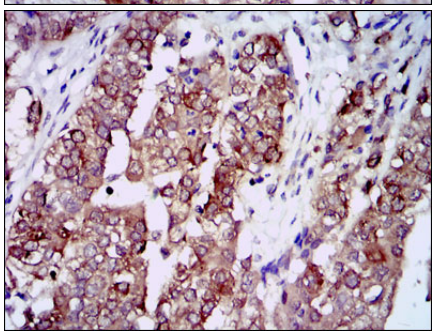


Figure 4: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using HSP90AA1 mouse mAb with DAB staining.

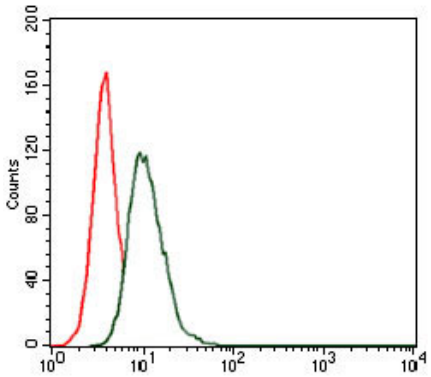


Figure 5: Flow cytometric analysis of HeLa cells using HSP90AA1 mouse mAb (green) and negative control (red).

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