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Anti-Hsp90 beta/HSP90AB1 Antibody Picoband™ (monoclonal, 7B7F5)

Catalog # ABO16618

Product Information

Application	WB, IF, ICC, FC
Primary Accession	P08238
Host	Mouse
Isotype	IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Hsp90 beta/HSP90AB1 Antibody Picoband™ (monoclonal, 7B7F5) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	3326
Other Names	Heat shock protein HSP 90-beta, HSP 90, Heat shock 84 kDa, HSP 84, HSP84, Heat shock protein family C member 3, HSP90AB1 (HGNC:5258)
Calculated MW	83264
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 7B7F5
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Hsp90 beta, identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	HSP90AB1 (HGNC:5258)
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 linked to its ATPase 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:16478993, PubMed:19696785). 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. 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). 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. They first alter the steady-state levels of certain transcription factors in response to various physiological cues. 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. Third, they participate in the eviction of histones from the promoter region of certain genes and thereby turn on gene expression (PubMed:25973397). Antagonizes STUB1- mediated inhibition of TGF-beta signaling via inhibition of STUB1- mediated SMAD3 ubiquitination and degradation (PubMed:24613385). Promotes cell differentiation by chaperoning BIRC2 and thereby protecting from auto-ubiquitination and degradation by the proteasomal machinery (PubMed:18239673). Main chaperone involved in the phosphorylation/activation of the STAT1 by chaperoning both JAK2 and PRKCE under heat shock and in turn, activates its own transcription (PubMed:20353823). Involved in the translocation into ERGIC (endoplasmic reticulum-Golgi intermediate compartment) of leaderless cargos (lacking the secretion signal sequence) such as the interleukin 1/IL-1; the translocation process is mediated by the cargo receptor TMED10 (PubMed:32272059).
Cellular Location	Cytoplasm. Melanosome Nucleus. Secreted. Cell membrane. Dynein axonemal particle {ECO:0000250|UniProtKB:Q6AZV1}. Cell surface. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:17081065) Translocates with BIRC2 from the nucleus to the cytoplasm during differentiation (PubMed:18239673). Secreted when associated with TGFB1 processed form (LAP) (PubMed:20599762).

Background

Heat shock protein HSP 90-beta, also called HSP90beta, is a protein that in humans is encoded by the HSP90AB1 gene. It is mapped to chromosome 6p21.1. This gene encodes a member of the heat shock protein 90 family; these proteins are involved in signal transduction, protein folding and degradation and morphological evolution. And this gene is thought to play a role in gastric apoptosis and inflammation. Alternative splicing results in multiple transcript variants. Pseudogenes have been identified on multiple chromosomes.

Images

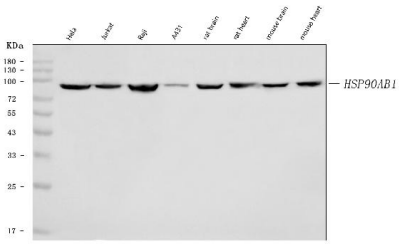


Figure 1. Western blot analysis of Hsp90 beta/HSP90AB1 using anti-Hsp90 beta/HSP90AB1 antibody (M01692-4). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human Jurkat whole cell lysates,
Lane 3: human Raji whole cell lysates,
Lane 4: human A431 whole cell lysates,
Lane 5: rat brain tissue lysates,
Lane 6: rat heart tissue lysates,
Lane 7: mouse brain tissue lysates,
Lane 8: mouse heart tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Hsp90 beta/HSP90AB1 antigen affinity purified monoclonal antibody (Catalog # M01692-4) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Hsp90 beta/HSP90AB1 at approximately 90 kDa. The expected band size for Hsp90 beta/HSP90AB1 is at 84 kDa.

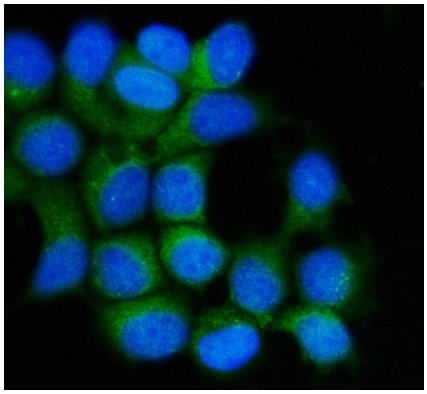


Figure 2. IF analysis of Hsp90 beta/HSP90AB1 using anti-Hsp90 beta/HSP90AB1 antibody (M01692-4). Hsp90 beta/HSP90AB1 was detected in an immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-Hsp90 beta/HSP90AB1 Antibody (M01692-4) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

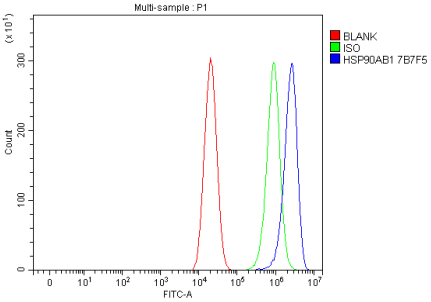


Figure 3. Flow Cytometry analysis of CACO-2 cells using anti-Hsp90 beta/HSP90AB1 antibody (M01692-4). Overlay histogram showing CACO-2 cells stained with M01692-4 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Hsp90 beta/HSP90AB1 Antibody (M01692-4, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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