abcam

ab2927

Anti-Hsp90 beta antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Mouse Hsp90ab1 aa 1-50. The exact immunogen used to generate this antibody is proprietary information. Database link P11499
Purification technique	Affinity purification Immunogen
Specificity	Detects heat shock protein 90 beta (HSP90). This antibody does not detect HSP86 alpha.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	2 µg

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	-

Species	Primates
Dilution info	-
Notes	2 µg

Predicted

Species	Rabbit, Horse, Cow, Cynomolgus monkey
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/20000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/20000
Notes	-

Species	African green monkey
Dilution info	1/1000 - 1/20000

Notes	-

Expected

Species	Human
Dilution info	-
Notes	-

Species	Primates
Dilution info	1/1000 - 1/20000
Notes	-

Predicted

Species	Rabbit, Horse, Cow, Cynomolgus monkey
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	-

Species	Primates
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Rabbit, Horse, Cow, Cynomolgus monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	10-20 µg/mL
Notes	-

Species	Human
Dilution info	10-20 µg/mL
Notes	-

Expected

Species	Rat
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	-

Species	Primates
Dilution info	10-20 µg/mL
Notes	-

Predicted

Species	Rabbit, Horse, Cow, Cynomolgus monkey
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1-20 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	-

Species	Primates
Dilution info	1-20 µg/mL
Notes	-

Predicted

Species	Rabbit, Horse, Cow, Cynomolgus monkey
Dilution info	-
Notes	-

Target data

See full target information Hsp90ab1

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. 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. 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. Antagonizes STUB1-mediated inhibition of TGF-beta signaling via inhibition of STUB1-mediated SMAD3 ubiquitination and degradation. Promotes cell differentiation by chaperoning BIRC2 and thereby protecting from auto-ubiquitination and degradation by the proteasomal machinery. 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. 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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Hsp90 beta also known as Hsp90AB1 or Hsp90 protein is a heat shock protein of approximately 90 kDa. It is a molecular chaperone found in most eukaryotic cells. Hsp90 beta helps in the proper folding stabilization and degradation of many proteins. Unlike its isoform Hsp90 alpha Hsp90 beta has a more stable expression and is not typically induced by stress. This protein is primarily localized in the cytosol but can also be present in other cellular compartments depending on the cellular state.
Biological function summary	Hsp90 beta functions to maintain protein homeostasis and cellular integrity. It forms part of a multi-protein chaperone complex which includes cochaperones such as Hop Hsp70 and p23 necessary for its full functionality. Hsp90 beta supports the maturation of steroid hormone receptors kinases and other client proteins. It plays an important role in the cell cycle regulation through its interaction with various proteins ensuring proper cell division and growth.
Pathways	Hsp90 beta is deeply involved in signal transduction and cellular stress response pathways. Its interaction with the Akt pathway is significant for cell survival signals. Hsp90 beta also participates in the MAP kinase pathway affecting cell growth and differentiation. The protein associates with multiple kinases including RAF and Src which are important for downstream signaling.
Associated diseases and disorders	The dysregulation of Hsp90 beta is associated with cancer and neurodegenerative diseases. In cancer Hsp90 beta stabilizes many oncoproteins making it a potential therapeutic target for inhibiting tumor growth. It interacts with client proteins like the proto-oncogene c-Src promoting tumorigenesis. In neurodegenerative disorders such as Alzheimer's disease improper interaction between Hsp90 beta and tau proteins can contribute to disease progression impacting neuronal function.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

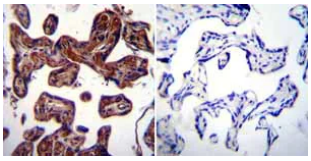
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

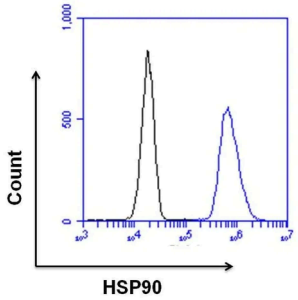
Full details and terms and conditions can be found here:
Terms & Conditions.

11 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 beta antibody (ab2927)

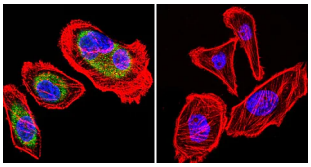
Immunohistochemistry was performed on normal biopsies of deparaffinized Human placenta tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:20 with a rabbit polyclonal antibody recognizing Heat Shock Protein 84 ab2927 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Flow Cytometry - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Flow Cytometry staining using rabbit Anti-Hsp90 beta antibody

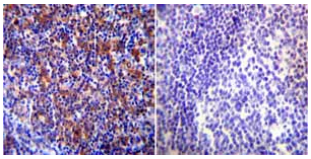
Flow cytometry analysis of HSP90 was done on HeLa cells. Cells were fixed, permeabilized and stained with a HSP90 rabbit polyclonal antibody (ab2927) (blue histogram) or a rabbit IgG isotype control (black histogram) at a dilution of 10 µg/mL. After incubation for 1 hour on ice, the cells were labeled with a Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, Alexa Fluor® 647 conjugate at a dilution of 1/50 for 1 hour on ice. A representative 10,000 cells were acquired and analyzed for each sample.



Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 beta antibody

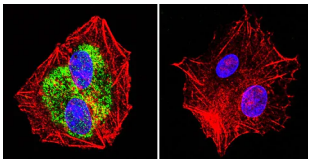
Immunocytochemistry/Immunofluorescence analysis of HSP90 beta shows staining in U251 cells. HSP 90 beta staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with or ab2927 at a dilution of 1:100 over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated goat anti-rabbit secondary antibody. Images were taken at 60X magnification.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hsp90 beta antibody

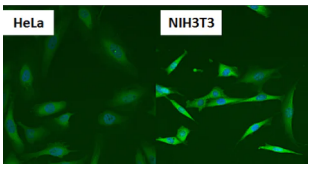
Immunohistochemistry was performed on normal biopsies of deparaffinized Human tonsil tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:100 with a rabbit polyclonal antibody recognizing Heat Shock Protein 84 ab2927 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 beta antibody

Immunocytochemistry/Immunofluorescence analysis of HSP90 beta shows staining in HepG2 cells. HSP 90 beta staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with or ab2927 at a dilution of 1:100 over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated goat anti-rabbit secondary antibody. Images were taken at 60X magnification.

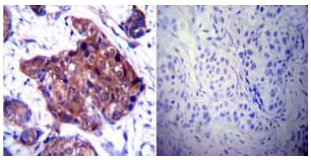


Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 beta antibody

Immunocytochemistry/Immunofluorescence analysis of HSP90 beta (green) in HeLa and NIH3T3 cells. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature. Cells were blocked with 1% BSA for 15 minutes at room temperature. Cells were incubated with ab2927 at a dilution of 1:50 for at least 1 hour at room temperature, washed with

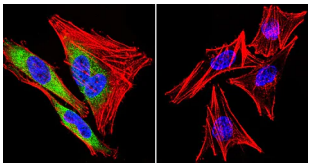
PBS, and incubated with a DyLight 488 goat-anti-rabbit IgG secondary antibody (1:400) for 30 minutes at room temperature. Nuclei (blue) were stained with Hoechst 33342 dye. Images were taken at 20X magnification.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hsp90 beta antibody

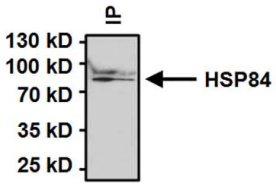
Immunohistochemistry was performed on cancer biopsies of deparaffinized Human breast carcinoma tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:100 with a rabbit polyclonal antibody recognizing Heat Shock Protein 84 ab2927 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 beta antibody

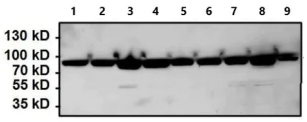
Immunocytochemistry/Immunofluorescence analysis of HSP90 beta shows staining in A2058 cells. HSP 90 beta staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with or ab2927 at a dilution of 1:100 over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated goat anti-rabbit secondary antibody. Images were taken at 60X magnification.



Immunoprecipitation - Anti-Hsp90 beta antibody (ab2927)

Immunoprecipitation of Hsp90 was performed on HeLa cells. Antigen:antibody complexes were formed by incubating 500µg whole cell lysate with 2µg of Hsp90 polyclonal antibody (ab2927) overnight on a rocking platform at 4°C. Immune complexes were captured on 50µl Protein A/G Agarose washed extensively and eluted with Buffer. Samples were resolved on a 4-20% Tris-HCl polyacrylamide gel, transferred to a PVDF membraneand blocked with 5% BSA/TBST for at least 1 hour. The membrane was probed with a Hsp90 polyclonal antibody (ab2927) at a dilution of 1:1000 overnight rotating at 4°C, washed in TBSTand probed with HRP detection reagent at a dilution of 1:1000 for at least one hour. Chemiluminescent detection was performed.
All lanes:
Immunoprecipitation - Anti-Hsp90 beta antibody (ab2927)

Predicted band size: 83 kDa



Western blot - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Western blot staining using rabbit Anti-Hsp90 beta antibody

Samples were loaded onto a 4-20% Tris-HCl polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked with 5% BSA/TBST for at least 1 hour. The membrane was then probed with primary antibody (ab2927) overnight at 4°C on a rocking platform, washed in TBS-0.1%Tween 20, and probed with secondary antibody for at least one hour. Chemiluminescent detection was performed using SuperSignal West Pico.
All lanes:
Western blot - Anti-Hsp90 beta antibody (ab2927) at 1/1000 dilution

Lane 1:
MCF7 whole cell lysate at 50 µg

Lane 2:
293T whole cell lysate at 50 µg

Lane 3:
HeLa whole cell lysate at 50 µg

Lane 4:
K562 whole cell lysate at 50 µg

Lane 5:
A431 whole cell lysate at 50 µg

Lane 6:
HepG2 whole cell lysate at 50 µg

Lane 7:
COS7 whole cell lysate at 50 µg

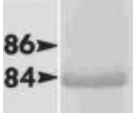
Lane 8:
NIH3T3 whole cell lysate at 50 µg

Lane 9:
NRK whole cell lysate at 50 µg

Secondary

All lanes:
Goat anti-rabbit IgG-HRP at 1/20000 dilution

Predicted band size: 83 kDa



Western blot - Anti-Hsp90 beta antibody (ab2927)

Hsp90 beta Western blot staining using rabbit Anti-Hsp90 beta antibody

Western blot of mouse HSP 86 using ab2927.
All lanes:
Western blot - Anti-Hsp90 beta antibody (ab2927)

Predicted band size: 83 kDa

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