abcam

ab203126

Anti-Hsp90 antibody [EPR16621-67]

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16621-67
Purification technique	Affinity purification Protein A
Concentration	1.841 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/10000
Notes	-

Species	Rat
Dilution info	1/10000
Notes	-

Species	Human
Dilution info	1/10000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/200
Notes	Methanol fixed cells.

Species	Human
Dilution info	1/200
Notes	Methanol fixed cells.

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/350
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
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 (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). (Microbial infection) Binding to N.meningitidis NadA stimulates monocytes (PubMed:21949862). Seems to interfere with N.meningitidis NadA-mediated invasion of human cells (Probable).

Storage

Shipped at conditions	Conditional Ambient
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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	Hsp90 also known as heat shock protein 90 is a molecular chaperone with a mass of about 90 kDa. It assists in the proper folding of client proteins stabilization of proteins against heat stress and degradation of misfolded proteins. Hsp90 is present in various cellular compartments including the cytoplasm nucleus and mitochondria. It is highly expressed in most eukaryotic cells reflecting its fundamental role in maintaining cellular protein homeostasis. Additionally Hsp90 serves as a loading control in western blot experiments due to its consistent expression levels across samples.
Biological function summary	Hsp90 interacts with many co-chaperones to form multi-protein complexes that aid its function. This protein is necessary for the maturation and stability of many signaling proteins including steroid hormone receptors and kinases like the tyrosine kinase D7A. Hsp90's chaperone activity is ATP-dependent with its N-terminal domain binding and hydrolyzing ATP leading to conformational changes that promote protein folding and assembly. Its influence extends to regulating cell cycle control and apoptosis highlighting its importance in cellular processes.
Pathways	Hsp90 participates in key biological pathways such as the protein folding response and the MAPK signaling pathway. In the protein folding process Hsp90 collaborates with co-chaperones like Aha1 and p23 to ensure accurate protein synthesis and repair. Its role in the MAPK signaling pathway influences cell growth proliferation and differentiation interacting with proteins like Raf-1 and MEK. These interactions highlight Hsp90's involvement in signal transduction and cellular stress responses.
Associated diseases and disorders	Hsp90 is implicated in cancer and neurodegenerative diseases. Its overexpression often correlates with tumor progression and poor prognosis in cancers where it stabilizes client proteins like HER2 and AKT that drive oncogenic processes. In neurodegenerative disorders such as Alzheimer's disease altered Hsp90 function affects the degradation of proteins like tau contributing to pathogenic protein aggregation. Understanding Hsp90's role in these conditions offers avenues for therapeutic interventions targeting its chaperone activity.

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

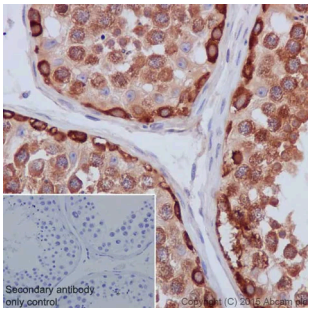
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images

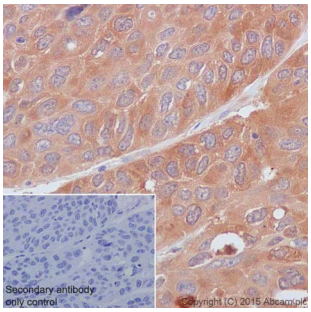


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

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

Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling Hsp90 alpha + beta with ab203126 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Cytoplasm and weak nucleus staining on germ cells of Human testis is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

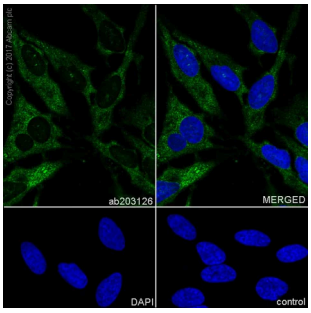


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

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

Immunohistochemical analysis of paraffin-embedded Human lung cancer tissue labeling Hsp90 alpha + beta with ab203126 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Cytoplasm and weak nucleus staining on tumor cells of Human lung cancer is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

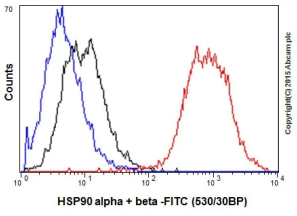
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 antibody

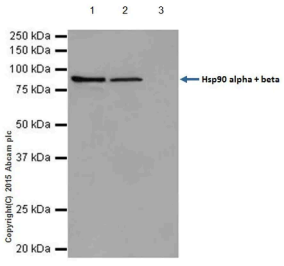
Immunocytochemistry/Immunofluorescence analysis of 100% methanol-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Hsp90 alpha + beta with ab203126 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasm staining on HeLa cell line. The nuclear counter stain is DAPI (blue).
Control - PBS instead of primary antibody.



Flow Cytometry (Intracellular) - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Flow Cytometry (Intracellular) staining using rabbit Anti-Hsp90 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling Hsp90 alpha + beta with ab203126 at 1/350 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 alpha + beta was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate with ab203126 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab203126 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.
Lane 1: HeLa whole cell lysate 10 µg (Input).

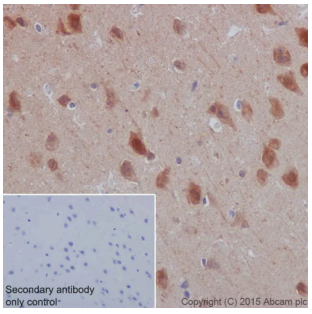
Lane 2: ab203126 IP in HeLa whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab203126 in HeLa whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds.
All lanes:
Immunoprecipitation - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Predicted band size: 85 kDa

Observed band size: 90 kDa

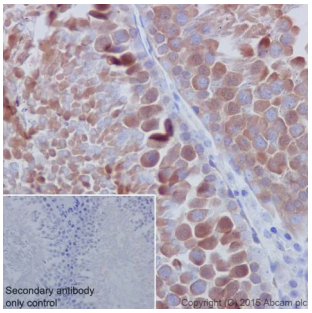


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

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

Immunohistochemical analysis of paraffin-embedded Mouse cerebral cortex tissue labeling Hsp90 alpha + beta with ab203126 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Cytoplasm and nucleus staining on neuron of mouse cerebral cortex is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

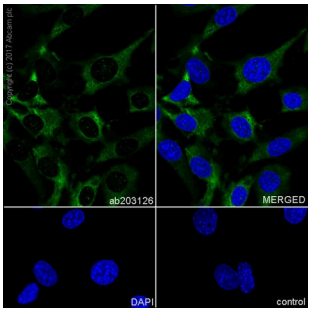


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

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

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling Hsp90 alpha + beta with ab203126 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Cytoplasm and weak nucleus staining on germ cells of rat testis is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

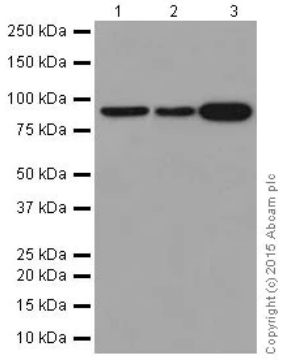
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hsp90 antibody

Immunocytochemistry/Immunofluorescence analysis of 100% methanol-fixed NIH/3T3 (Mouse embryonic fibroblast) cells labeling Hsp90 alpha + beta with ab203126 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasm staining on HeLa cell line. The nuclear counter stain is DAPI (blue).
Control - PBS instead of primary antibody.



Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Western blot staining using rabbit Anti-Hsp90 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126) at 1/10000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:
Human fetal heart lysate at 10 µg

Lane 3:
Human fetal kidney lysate at 10 µg

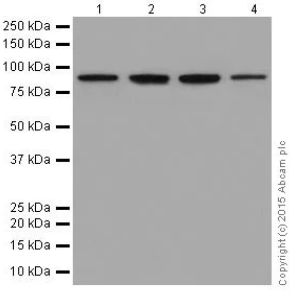
Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 85 kDa

Observed band size: 90 kDa

Exposure time: 3min



Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Western blot staining using rabbit Anti-Hsp90 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Lanes 1, 3 and 4:
Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126) at 1/100000 dilution

Lane 2:
Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126) at 1/10000 dilution

Lane 1:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
HEK-293 (Human epithelial cells from embryonic kidney) whole cell lysate at 20 µg

Lane 3:
K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysate at 20 µg

Lane 4:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysate at 20 µg

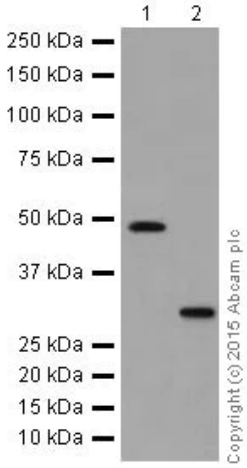
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

Predicted band size: 85 kDa

Observed band size: 90 kDa

Exposure time: 3s



Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Hsp90 Western blot staining using rabbit Anti-Hsp90 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Human Hsp90 alpha and Hsp90 beta recombinant protein fragments were made in house.

All lanes:
Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126) at 1/10000 dilution

Lane 1:
Hsp90 alpha recombinant protein fragment (GST-tag): aa533-732 at 0.01 µg

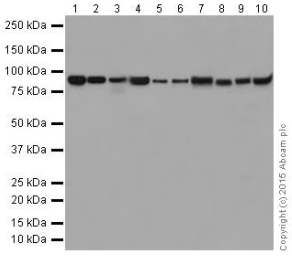
Lane 2:
Hsp90 beta recombinant protein fragment (His-Tag®): aa525-724 at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

Predicted band size: 85 kDa

Exposure time: 15s



Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Hsp90 antibody [EPR16621-67] (ab203126) at 1/10000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse heart lysate at 10 µg

Lane 3:
Mouse kidney lysate at 10 µg

Lane 4:
Rat brain lysate at 10 µg

Lane 5:
Rat heart lysate at 10 µg

Lane 6:
Rat kidney lysate at 10 µg

Lane 7:
C6 (Rat glial tumor cells) whole cell lysate at 10 µg

Lane 8:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 9:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 10:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 85 kDa

Observed band size: 90 kDa

Exposure time: 3s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.