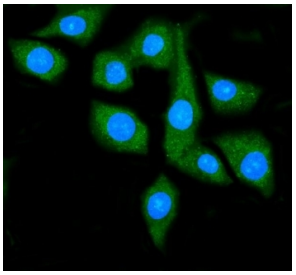
HSP90AA1 Antibody / Molecular Chaperone Antibody [clone 6B5] (RQ6535)

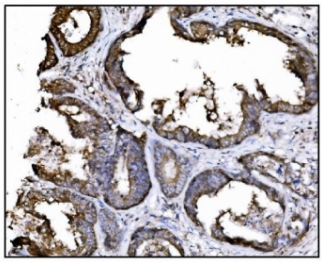
Catalog No.	Formulation	Size
RQ6535	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

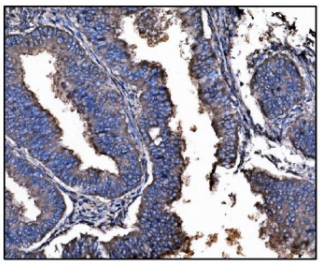
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Monkey
Format	Antigen affinity purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	6B5
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P07900
Localization	Cell membrane, cytoplasmic, nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This HSP90AA1 Antibody / Molecular Chaperone Antibody is available for research use only.



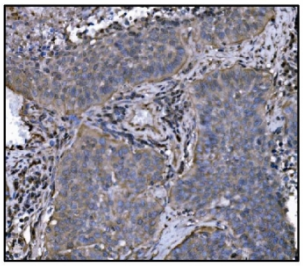
HSP90AA1 Antibody IF. Immunofluorescent staining of FFPE human SiHa cells using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates strong cytoplasmic green fluorescence with minimal nuclear staining. The staining pattern is consistent with expression of HSP90AA1 (HSP90a), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 is one of the most abundant intracellular chaperones and plays a central role in maintaining proteostasis and cellular homeostasis. HIER was performed by steaming sections in pH 6 citrate buffer for 20 minutes prior to staining. HSP90AA1 was detected with a green fluorophore, while nuclei were counterstained with DAPI (blue).



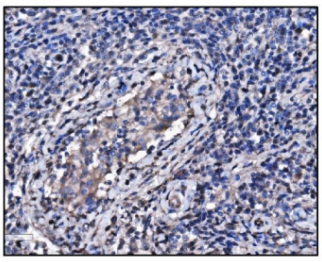
HSP90AA1 Antibody Colon Cancer IHC. Immunohistochemistry staining of FFPE human colon cancer tissue using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within malignant gland-forming epithelial cells. The staining pattern is consistent with expression of HSP90AA1 (HSP90a), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 supports the function of numerous signaling molecules involved in cellular growth, survival, and tumor progression, making it an important target in cancer biology and proteostasis research. HIER was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to immunostaining.



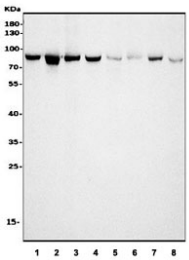
HSP90AA1 Antibody Cervical Cancer IHC. Immunohistochemistry staining of FFPE human cervical cancer tissue using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within malignant epithelial cells. The staining pattern is consistent with expression of HSP90AA1 (HSP90a), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 supports the activity of numerous proteins involved in cellular proliferation, survival, and adaptation to physiological stress, making it an important target in cancer biology and proteostasis research. HIER was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to immunostaining.



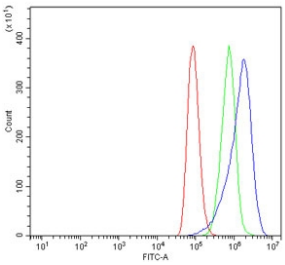
HSP90AA1 Antibody Lung Cancer IHC. Immunohistochemistry staining of FFPE human lung cancer tissue using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates moderate cytoplasmic HRP-DAB brown staining within malignant epithelial tumor cells. The staining pattern is consistent with expression of HSP90AA1 (HSP90a), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 supports the activity of numerous regulatory proteins involved in cellular proliferation, survival, and adaptation to tumor-associated stress, making it an important target in cancer biology and proteostasis research. HIER was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to immunostaining.



HSP90AA1 Antibody Testis Cancer IHC. Immunohistochemistry staining of FFPE human testis cancer tissue using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates cytoplasmic HRP-DAB brown staining within malignant tumor cells. The staining pattern is consistent with expression of HSP90AA1 (HSP90a), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 supports the activity of numerous proteins involved in cellular proliferation, survival, and adaptation to physiological stress, making it an important target in cancer biology, proteostasis research, and studies of tumor-associated signaling networks. HIER was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to immunostaining.



HSP90AA1 Antibody WB. Western blot analysis of human HeLa (lane 1), human HEK293 (lane 2), monkey COS-7 (lane 3), human HepG2 (lane 4), human A549 (lane 5), rat PC-3 (lane 6), rat RH35 (lane 7), and mouse HEPA1-6 (lane 8) cell lysates using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates a prominent immunoreactive band at approximately 86-90 kDa across multiple mammalian cell lines. The staining pattern is consistent with expression of HSP90AA1 (HSP90 alpha), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90AA1 is ubiquitously expressed in many cell types and plays essential roles in maintaining proteostasis and cellular homeostasis. The observed cross-species reactivity supports detection of HSP90AA1 in human, monkey, rat, and mouse samples by western blot analysis. Predicted molecular weight: approximately 86-90 kDa.



HSP90AA1 Antibody FACS. Flow cytometry analysis of human A549 cells using HSP90AA1 Antibody / Molecular Chaperone Antibody demonstrates a clear rightward shift of the antibody-stained population (blue) relative to the isotype control (green) and unstained cells (red), consistent with detection of HSP90AA1 expression. HSP90AA1 (HSP90 alpha) is a highly conserved ATP-dependent molecular chaperone involved in protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. Due to its central role in maintaining proteostasis and cellular homeostasis, HSP90AA1 is widely studied in cancer biology, cell signaling, and stress-response research. Cells were stained with HSP90AA1 antibody at 1 ug/million cells following blocking with goat sera. Red = cells alone, Green = isotype control, Blue = HSP90AA1 antibody.

Description

HSP90AA1 Antibody / Molecular Chaperone Antibody detects HSP90AA1, also known as heat shock protein 90 alpha (HSP90 alpha), a highly conserved ATP-dependent molecular chaperone that plays a central role in protein folding, stabilization, trafficking, and quality control. HSP90AA1 is one of the most abundant intracellular chaperones in eukaryotic cells and is required for the proper maturation and function of a diverse range of client proteins. Through its extensive interaction network, HSP90AA1 regulates numerous cellular pathways involved in growth, survival, differentiation, and stress adaptation, making it one of the most extensively studied proteins in cell biology and biomedical research.

As a molecular chaperone, HSP90AA1 assists newly synthesized proteins in achieving and maintaining their proper three-dimensional structure. The protein functions in concert with co-chaperones and other members of the cellular chaperone machinery to prevent protein misfolding, aggregation, and degradation. HSP90AA1 interacts with hundreds of client proteins, including kinases, transcription factors, signaling intermediates, and hormone receptors. Because many of these clients serve as critical regulators of cellular function, HSP90AA1 occupies a central position within multiple signaling and regulatory networks.

HSP90AA1 is also a major component of the cellular stress response system. Expression and activity of HSP90 proteins can be influenced by heat shock, oxidative stress, inflammation, toxicant exposure, metabolic challenges, and other physiological stresses. By stabilizing damaged or partially unfolded proteins, HSP90AA1 helps maintain cellular homeostasis and supports recovery from adverse environmental conditions. These functions have established HSP90AA1 as an important marker for studies of proteostasis, cellular resilience, and stress-response pathways.

Beyond its role in protein quality control, HSP90AA1 participates in the regulation of signal transduction, cell cycle progression, apoptosis, and developmental processes. Numerous signaling pathways rely on HSP90AA1-mediated stabilization of key regulatory proteins, and disruption of HSP90 function can significantly alter cellular behavior. Consequently, HSP90AA1 has become a major focus of research involving cancer biology, stem cell regulation, developmental biology, neurobiology, immunology, and cardiovascular physiology.

Aberrant HSP90AA1 expression or activity has been associated with a wide variety of disease processes. The protein is frequently studied in oncology due to its ability to stabilize multiple oncogenic client proteins simultaneously, and HSP90 inhibition has emerged as an important therapeutic strategy in cancer research. HSP90AA1 has also been implicated in neurodegenerative disorders, inflammatory diseases, and conditions characterized by altered protein homeostasis. Its broad biological significance continues to drive interest in understanding how molecular chaperones contribute to health and disease.

HSP90AA1 Antibody / Molecular Chaperone Antibody is useful for researchers studying protein folding, molecular chaperones, proteostasis, cellular stress responses, signal transduction, cancer biology, developmental pathways, and cell survival mechanisms. Validation may include applications such as immunohistochemistry, western blotting, immunofluorescence, flow cytometry, ELISA, and protein expression analysis when supported by experimental data. As a master regulator of protein stability and cellular homeostasis, HSP90AA1 remains an essential target for investigating the molecular mechanisms that govern normal cellular function and disease-associated biological pathways.

Explore our Cell Biology Antibodies page for additional reagents involved in protein folding, cellular stress responses, signal transduction, and maintenance of cellular homeostasis.

Application Notes

Optimal dilution of the HSP90AA1 Antibody / Molecular Chaperone Antibody should be determined by the researcher.

Immunogen

Amino acids 454-488 (QNRKKLSELLRYYTSASGDEMVSLKDYCTRMKENQ) from the human protein were used as the immunogen for the HSP90AA1 antibody.

Storage

After reconstitution, the HSP90AA1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

HSP90AA1 Antibody, HSP90 Alpha Antibody, Heat Shock Protein 90 Alpha Antibody, Heat Shock Protein 90 Alpha Family Class A Member 1 Antibody, Molecular Chaperone HSP90 Antibody, Stress Response Protein Antibody

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