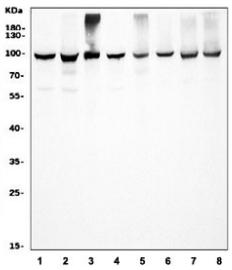
HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody (R31907)

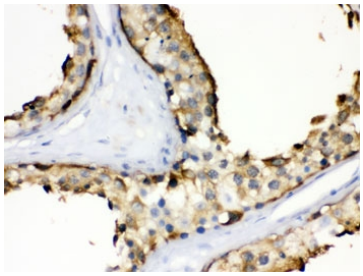
Catalog No.	Formulation	Size
R31907	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

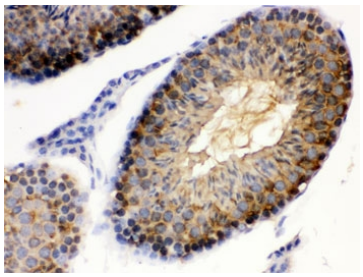
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Monkey
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P07900
Localization	Cytoplasmic
Applications	Western blot: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml Immunofluorescence (FFPE): 2-4ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody is available for research use only.



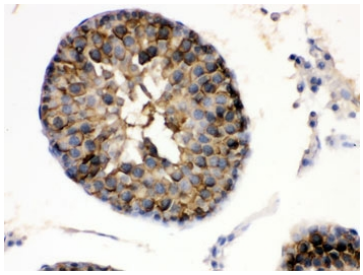
HSP90 alpha Antibody WB. Western blot analysis of human HeLa (lane 1), human HEK293 (lane 2), monkey COS-7 (lane 3), human HepG2 (lane 4), human A549 (lane 5), rat PC-12 (lane 6), rat RH35 (lane 7), and mouse HEPA1-6 (lane 8) cell lysates using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates a prominent immunoreactive band at approximately 86-90 kDa across multiple mammalian cell lines. The staining pattern is consistent with expression of HSP90 alpha (HSP90AA1), a highly conserved ATP-dependent molecular chaperone involved in protein folding, stabilization of client proteins, signal transduction, and maintenance of cellular homeostasis. HSP90 alpha is ubiquitously expressed and plays essential roles in proteostasis, stress-response pathways, and regulation of numerous signaling proteins. The observed cross-species reactivity supports detection of HSP90 alpha in human, monkey, rat, and mouse samples by western blot analysis. Predicted molecular weight: approximately 86-90 kDa.



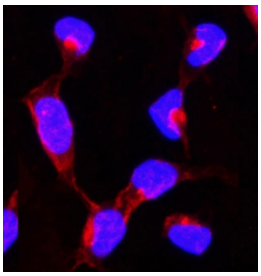
HSP90 alpha Antibody Testis IHC. Immunohistochemistry staining of FFPE human testis using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within seminiferous tubule germ cell populations. The staining pattern is consistent with expression of HSP90 alpha (HSP90AA1), a highly conserved ATP-dependent molecular chaperone involved in protein folding, stabilization of client proteins, cellular stress responses, and maintenance of proteostasis. HSP90 alpha is highly expressed in metabolically active and proliferative cell populations, where it supports the maturation and function of numerous signaling and regulatory proteins. HIER was performed by boiling paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes followed by cooling prior to immunostaining.



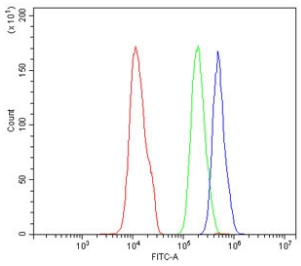
HSP90 alpha Antibody Mouse Testis IHC. Immunohistochemistry staining of FFPE mouse testis using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within seminiferous tubule germ cell populations. The staining pattern is consistent with expression of HSP90 alpha (HSP90AA1), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, cellular stress responses, and maintenance of proteostasis. HSP90 alpha is highly expressed in developing germ cells and other metabolically active cell populations, where it supports the function of signaling proteins required for cellular growth, differentiation, and survival. HIER was performed by boiling paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes followed by cooling prior to immunostaining.



HSP90 alpha Antibody Rat Testis IHC. Immunohistochemistry staining of FFPE rat testis using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates strong cytoplasmic HRP-DAB brown staining within seminiferous tubule germ cell populations. The staining pattern is consistent with expression of HSP90 alpha (HSP90AA1), a highly conserved ATP-dependent molecular chaperone involved in protein folding, stabilization of client proteins, cellular stress responses, and maintenance of proteostasis. HSP90 alpha supports the maturation and function of numerous signaling proteins required for germ cell development, differentiation, and survival. HIER was performed by boiling paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes followed by cooling prior to immunostaining.



HSP90 alpha Antibody IF. Immunofluorescent staining of FFPE human U-2 OS cells using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody demonstrates strong cytoplasmic red fluorescence with relative exclusion from the nucleus. The staining pattern is consistent with expression of HSP90 alpha (HSP90AA1), a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. HSP90 alpha is predominantly localized within the cytoplasm, where it maintains proteostasis and supports the activity of numerous signaling and regulatory proteins. HIER was performed by steaming sections in pH 6 citrate buffer for 20 minutes prior to staining. HSP90 alpha was detected with a red fluorophore, while nuclei were counterstained with DAPI (blue).



HSP90 alpha Antibody FACS. Flow cytometry analysis of human SiHa cells using HSP90 alpha Antibody / Heat Shock Protein 90 Alpha 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 HSP90 alpha expression. HSP90 alpha (HSP90AA1) is a highly conserved ATP-dependent molecular chaperone that regulates protein folding, stabilization of client proteins, signal transduction, and cellular stress-response pathways. As a central component of the cellular proteostasis network, HSP90 alpha supports the activity of numerous signaling and regulatory proteins involved in cellular growth, survival, and adaptation to physiological stress. Cells were stained with HSP90 alpha antibody at 1 ug/million cells following blocking with goat sera. Red = cells alone, Green = isotype control, Blue = HSP90 alpha antibody.

Description

HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody detects HSP90AA1, a highly conserved ATP-dependent molecular chaperone that plays a critical role in protein folding, stabilization, intracellular trafficking, and maintenance of protein homeostasis. HSP90 alpha is one of the most abundant molecular chaperones in eukaryotic cells and functions as a central regulator of numerous signaling pathways through its interactions with a diverse collection of client proteins. Because of its broad biological importance, HSP90 alpha is extensively studied in cell biology, cancer research, developmental biology, and stress-response signaling.

HSP90 alpha belongs to the heat shock protein 90 family, a group of chaperones responsible for ensuring proper protein conformation and functional stability. The protein operates in conjunction with co-chaperones and accessory proteins to assist in the maturation of kinases, transcription factors, hormone receptors, and other regulatory molecules. Through these interactions, HSP90 alpha helps maintain the activity of signaling networks that control cellular growth, differentiation, metabolism, and survival.

As a molecular chaperone, HSP90 alpha serves an essential role in protecting cells from proteotoxic stress. The protein contributes to the stabilization and refolding of damaged or partially unfolded proteins generated during heat shock, oxidative stress, inflammation, and other adverse conditions. These protective functions are critical for preserving cellular homeostasis and ensuring proper adaptation to changing physiological environments. Consequently, HSP90 alpha is widely utilized as a marker of cellular stress responses and protein quality control pathways.

HSP90 alpha also influences numerous signaling cascades through its ability to stabilize client proteins involved in signal transduction. Many receptor-associated kinases, transcriptional regulators, and growth-promoting proteins depend on HSP90 activity for proper function. Through these interactions, HSP90 alpha contributes to regulation of cell cycle progression, apoptosis, differentiation, and developmental processes. The protein therefore occupies a central position at the intersection of protein quality control and cellular signaling networks.

Aberrant regulation of HSP90 alpha has been associated with a variety of pathological conditions. Elevated expression and activity have been reported in many human cancers, where HSP90 supports the stability of oncogenic proteins involved in tumor growth and survival. The protein has also been implicated in neurodegenerative diseases, inflammatory disorders, and conditions characterized by altered proteostasis. These findings have established HSP90 alpha as an important target for both basic research and therapeutic development.

HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody is useful for researchers studying molecular chaperones, protein folding, stress-response pathways, signal transduction, cancer biology, cellular homeostasis, and protein quality control mechanisms. Validation may include immunohistochemistry, western blotting, immunofluorescence, flow cytometry, ELISA, and related protein expression applications when supported by experimental data. As one of the most important chaperone proteins in mammalian cells, HSP90 alpha remains a valuable target for investigating the molecular pathways that regulate protein stability, cellular adaptation, and disease-associated biological processes.

Learn more about HSP90AA1 expression, molecular chaperone function, protein folding, and cellular stress-response pathways on our HSP90AA1 Antibody / Heat Shock Protein 90 Alpha Antibody page.

Application Notes

Optimal dilution of the HSP90 alpha Antibody / Heat Shock Protein 90 Alpha Antibody should be determined by the researcher.

Immunogen

Amino acids QNRKKLSELLRYYTSASGDEMVSLKDYCTRMKENQ of human HSP90AA1 were used as the immunogen for the HSP90 alpha antibody.

Storage

After reconstitution, the HSP90 alpha 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

HSP90 alpha Antibody, HSP90AA1 Antibody, Heat Shock Protein 90 Alpha Antibody, Heat Shock Protein 90 Alpha Family Class A Member 1 Antibody, ATP-Dependent Molecular Chaperone Antibody, Cellular Stress Response Protein Antibody

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