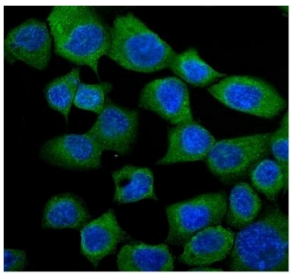
GRP94 Polyclonal Antibody / HSP90B1 Polyclonal Antibody (R31967)

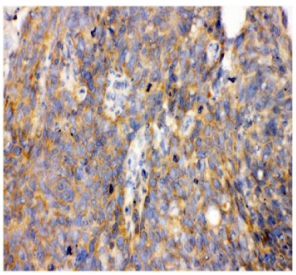
Catalog No.	Formulation	Size
R31967	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

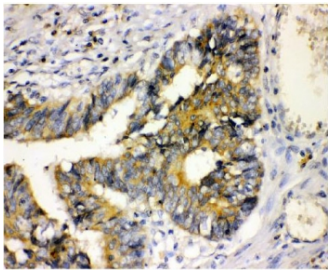
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P14625
Localization	Cytoplasmic
Applications	Western blot: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 1-2ug/ml Immunofluorescence (FFPE): 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This GRP94 Polyclonal Antibody / HSP90B1 Polyclonal Antibody is available for research use only.



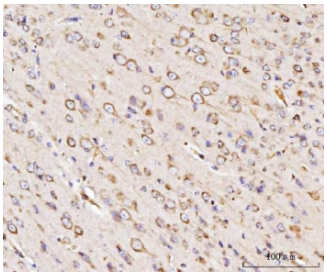
GRP94 Polyclonal Antibody IF Staining in Human A431 Cells. Immunofluorescence staining of FFPE human A431 cells using HSP90B1 Polyclonal Antibody. GRP94 is visualized in green, with DAPI nuclear counterstaining in blue. Green fluorescence is concentrated in the cytoplasm surrounding the nuclei, consistent with the predominantly endoplasmic reticulum-associated localization of GRP94. Heat-mediated antigen retrieval was performed using citrate buffer (pH 6.0) for 20 minutes.



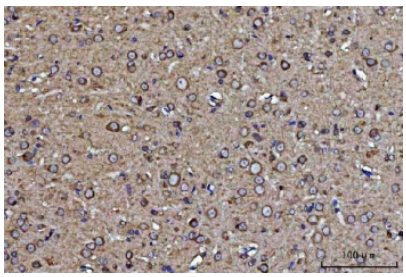
GRP94 Polyclonal Antibody IHC Staining in Human Lung Cancer Tissue. Immunohistochemical analysis of FFPE human lung cancer tissue using HSP90B1 Polyclonal Antibody. Brown DAB staining is observed in the cytoplasm of numerous tumor cells, with heterogeneous staining intensity across the tissue. Hematoxylin provides nuclear counterstaining. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0) for 20 minutes.



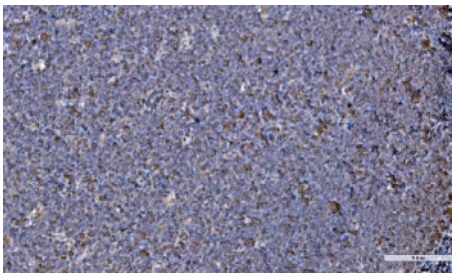
GRP94 Polyclonal Antibody IHC Staining in Human Intestinal Cancer Tissue. Immunohistochemical analysis of FFPE human intestinal cancer tissue using HSP90B1 Polyclonal Antibody. Brown DAB staining is prominent in malignant epithelial cells forming irregular glandular structures, with cytoplasmic staining surrounding hematoxylin-counterstained nuclei. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0) for 20 minutes.



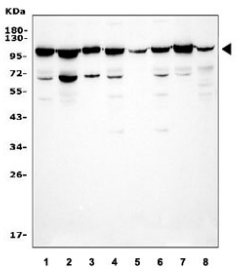
GRP94 Polyclonal Antibody IHC Staining in Mouse Brain Tissue. Immunohistochemical analysis of FFPE mouse brain tissue using HSP90B1 Polyclonal Antibody. Brown DAB staining is observed in neuronal cell bodies and surrounding neuropil, with a predominantly cytoplasmic distribution. Hematoxylin provides nuclear counterstaining. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0) for 20 minutes.



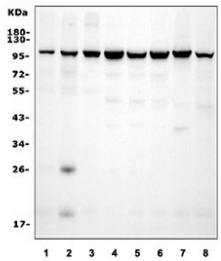
GRP94 Polyclonal Antibody IHC Staining in Rat Brain Tissue. Immunohistochemical analysis of FFPE rat brain tissue using HSP90B1 Polyclonal Antibody. Brown DAB staining is distributed throughout the tissue, including neuronal cell bodies and surrounding neuropil. The staining pattern is predominantly cytoplasmic, consistent with the intracellular localization of GRP94. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0) for 20 minutes.



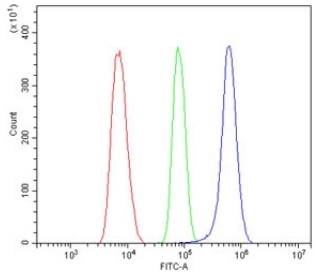
GRP94 Polyclonal Antibody IHC Staining in Human Tonsil Tissue. Immunohistochemical analysis of FFPE human tonsil tissue using HSP90B1 Polyclonal Antibody. Brown DAB staining is visible in scattered cells throughout the lymphoid tissue, with variable cytoplasmic staining among individual cells. Hematoxylin provides nuclear counterstaining. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0) for 20 minutes.



GRP94 Polyclonal Antibody WB Testing of Eight Human Cell Lysates. Western blot analysis using HSP90B1 Polyclonal Antibody. Lanes 1-8: HeLa, U-87 MG, A431, Caco-2, THP-1, Caco-2, HepG2, and HL-60 cell lysates, respectively. A predominant immunoreactive band is detected near 92-96 kDa across all eight samples, consistent with the expected molecular weight of GRP94/HSP90B1.



GRP94 Polyclonal Antibody WB Testing of Rat and Mouse Cell Lysates. Western blot analysis using HSP90B1 Polyclonal Antibody. Lanes 1-3: rat PC-12, RH35, and C6 cell lysates. Lanes 4-8: mouse HEPA1-6, NIH3T3, RAW264.7, SP2/0, and ANA-1 cell lysates, respectively. A predominant immunoreactive band is detected near 92-96 kDa in all eight samples, consistent with the expected molecular weight of GRP94/HSP90B1.



GRP94 Polyclonal Antibody FACS Staining of Human THP-1 Cells. Flow cytometry analysis of human THP-1 cells using HSP90B1 Polyclonal Antibody at 1 ug per million cells following blocking with goat serum. The blue histogram represents GRP94 antibody staining, the green histogram represents the isotype control, and the red histogram represents unstained cells. The antibody-stained population exhibits a substantial rightward fluorescence shift relative to both controls.

Description

GRP94 Polyclonal Antibody / HSP90B1 Polyclonal Antibody targets glucose-regulated protein 94 (GRP94), also known as gp96 or endoplasmin. Encoded by the HSP90B1 gene, GRP94 is an ATP-dependent molecular chaperone belonging to the heat shock protein 90 family. Unlike cytoplasmic HSP90 proteins, GRP94 resides primarily within the endoplasmic reticulum (ER), where it supports the folding, maturation, and quality control of selected secretory and membrane proteins. Its activity is essential for maintaining protein homeostasis under both normal physiological conditions and cellular stress.

GRP94 is particularly important for the maturation of proteins involved in cell adhesion and immune signaling. Established client proteins include several integrin subunits, Toll-like receptors, and insulin-like growth factors. By assisting their proper folding and assembly, GRP94 indirectly influences extracellular matrix interactions, innate immune recognition, and growth factor signaling. Its ATPase cycle drives conformational changes that coordinate client binding and release, while interactions with ER-associated cofactors contribute to substrate recognition and chaperone activity.

During ER stress, GRP94 expression increases through activation of the unfolded protein response (UPR). This adaptive signaling network responds to the accumulation of unfolded or misfolded proteins by increasing chaperone availability, modifying protein synthesis, and promoting degradation of proteins that cannot be properly folded. GRP94 contributes to this protective response alongside BiP/GRP78 and other ER-resident quality control proteins. Prolonged disruption of ER homeostasis can overwhelm these protective mechanisms and activate pathways associated with inflammation, metabolic dysfunction, or programmed cell death.

GRP94 also has important roles in immune regulation and disease. Its requirement for Toll-like receptor maturation connects ER protein quality control with innate immune function, while its involvement in integrin folding influences cellular adhesion and migration. Increased GRP94 expression has been documented in multiple cancers, where enhanced chaperone capacity may help malignant cells tolerate proteotoxic stress. The GRP94 Polyclonal Antibody supports investigation of these interconnected processes, particularly the relationship between ER protein maturation, cellular stress adaptation, and immune receptor function.

For researchers interested in a published monoclonal reagent targeting the same protein, explore our GRP94 Antibody 9G10.F8.2

Application Notes

Optimal dilution of the GRP94 Polyclonal Antibody / HSP90B1 Polyclonal Antibody should be determined by the researcher.

Immunogen

Amino acids 43-221 of human GRP94 were used as the immunogen for the GRP94 Polyclonal Antibody.

Storage

After reconstitution, the GRP94 Polyclonal 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

GRP94 antibody, HSP90B1 antibody, gp96 antibody, Endoplasmin antibody, Glucose-regulated protein 94 antibody, Glucose-regulated protein 96 antibody, Heat shock protein 90 beta family member 1 antibody, ER-resident HSP90 antibody, GRP96 antibody, Tumor rejection antigen gp96 antibody

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