abcam

ab52031

Anti-GRP94 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: 0.5% BSA, 0.5% Tris buffered saline
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human HSP90B1 aa 550-650. The exact immunogen used to generate this antibody is proprietary information. Database link P14625
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

WB

Tested

Species	Mouse
Dilution info	0.01-0.03 µg/mL
Notes	1 hour primary incubation is recommended for this product.

Species	Human

Dilution info	0.01-0.03 µg/mL
Notes	1 hour primary incubation is recommended for this product.

Predicted

Species	Rat, Rabbit, Dog, Cynomolgus monkey, Syrian hamster, Orangutan
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	3-5 µg/mL
Notes	-

Expected

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

Predicted

Species	Rat, Rabbit, Dog, Cynomolgus monkey, Syrian hamster, Orangutan
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Expected

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

Predicted

Species	Rat, Rabbit, Dog, Cynomolgus monkey, Syrian hamster, Orangutan
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat, Rabbit, Dog, Cynomolgus monkey, Syrian hamster, Orangutan
Dilution info	-
Notes	-

Target data

See full target information HSP90B1

Function	ATP-dependent chaperone involved in the processing of proteins in the endoplasmic reticulum, regulating their transport (PubMed:23572575, PubMed:39509507). Together with MESD, acts as a modulator of the Wnt pathway by promoting the folding of LRP6, a coreceptor of the canonical Wnt pathway (PubMed:23572575, PubMed:39509507). When associated with CNPY3, required for proper folding of Toll-like receptors (PubMed:11584270). Promotes folding and trafficking of TLR4 to the cell surface (PubMed:11584270). May participate in the unfolding of cytosolic leaderless cargos (lacking the secretion signal sequence) such as the interleukin 1/IL-1 to facilitate their translocation into the ERGIC (endoplasmic reticulum-Golgi intermediate compartment) and secretion; the translocation process is mediated by the cargo receptor TMED10 (PubMed:32272059).

Storage

Shipped at conditions	Blue Ice
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	GRP94 also known as HSP90b1 is a glycoprotein that belongs to the heat shock protein 90 family. It has a molecular mass of approximately 94 kDa. GRP94 is expressed mainly in the endoplasmic reticulum and appears in high levels in cells undergoing stress. This protein acts as a chaperone assisting in the proper folding and assembly of other proteins playing an essential role in protein homeostasis. GRP94 ensures the quality control of proteins by preventing misfolding and aggregation.
Biological function summary	GRP94 influences the stability of many secretory and cell-surface proteins. It forms part of a multi-protein complex that stabilizes client proteins and assists their proper folding. GRP94 is essential for the maturation of proteins involved in the immune response including immunoglobulins and integrins. Overexpression of GRP94 has been noted in various cancers where it supports the folding of proteins required for tumor growth and survival.
Pathways	GRP94 is an important element of the protein folding quality control mechanism within the endoplasmic reticulum. It functions in coordination with other chaperones like BiP and calnexin within the unfolded protein response (UPR) pathway. The UPR pathway is essential during stress conditions where increased

protein synthesis occurs. GRP94 also contributes to calcium homeostasis and directly interacts with proteins like integrins affecting cell adhesion and motility.

Associated diseases and disorders

GRP94 has been implicated in the progression of cancer and neurodegenerative diseases. Overexpression of GRP94 is often linked to cancer where it stabilizes oncogenic proteins necessary for cancer cell survival. In neurodegenerative disorders GRP94 shows altered expression levels which may influence the pathogenesis of diseases like Alzheimer's. The interaction between GRP94 and other proteins such as tau protein in Alzheimer's highlights its potential role in disease mechanisms.

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

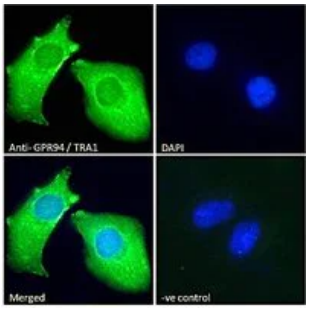
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

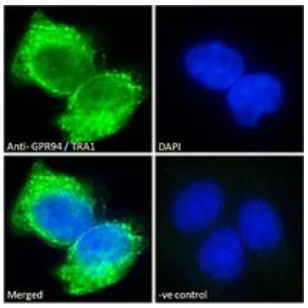


Immunocytochemistry/ Immunofluorescence - Anti-GRP94 antibody (ab52031)

GRP94 Immunocytochemistry/ Immunofluorescence staining using goat Anti-GRP94 antibody

Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation with ab52031 (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing Endoplasmic reticulum and cytoplasmic staining. The nuclear stain is

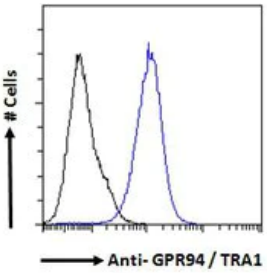
DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Immunocytochemistry/ Immunofluorescence - Anti-GRP94 antibody (ab52031)

GRP94 Immunocytochemistry/ Immunofluorescence staining using goat Anti-GRP94 antibody

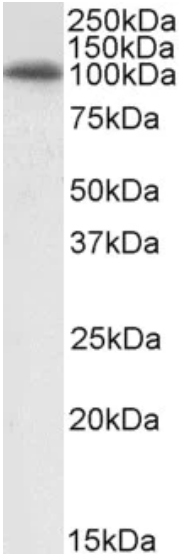
Immunofluorescence analysis of paraformaldehyde fixed A431 cells, permeabilized with 0.15% Triton. Primary incubation with ab52031 (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing Endoplasmic reticulum and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Flow Cytometry (Intracellular) - Anti-GRP94 antibody (ab52031)

GRP94 Flow Cytometry (Intracellular) staining using goat Anti-GRP94 antibody

Flow cytometric analysis of paraformaldehyde fixed A431 cells (blue line), permeabilized with 0.5% Triton. Primary incubation with ab52031 (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (1 µg/ml). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



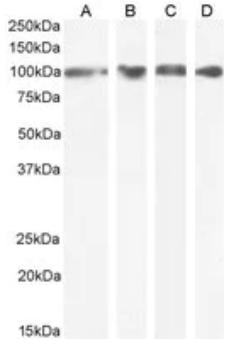
Western blot - Anti-GRP94 antibody (ab52031)

All lanes:
Western blot - Anti-GRP94 antibody (ab52031) at 0.1 µg/mL

All lanes:
NIH-3T3 cell lysate

Developed using the ECL technique.

Predicted band size: 92 kDa



Western blot - Anti-GRP94 antibody (ab52031)

Lanes 1 - 3:
Western blot - Anti-GRP94 antibody (ab52031) at 0.1 µg/mL

Lane 4:
Western blot - Anti-GRP94 antibody (ab52031) at 0.3 µg/mL

Lane 1:
U2OS cell lysate at 35 µg

Lane 2:
HEK293 cell lysate at 35 µg

Lane 3:
HeLa cell lysate at 35 µg

Lane 4:
A594 cell lysate at 35 µg

Predicted band size: 92 kDa



Western blot - Anti-GRP94 antibody (ab52031)

All lanes:
Western blot - Anti-GRP94 antibody (ab52031) at 0.1 µg/mL

All lanes:
U-2OS cell lysate

Predicted band size: 92 kDa

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