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GRP78 Polyclonal Antibody

Catalog Number PA5-22967

Product data sheet

Details	
Size	100 µL
Host/Isotope	Rabbit / IgG
Class	Polyclonal
Type	Antibody
Immunogen	Synthetic peptide made to an internal portion of the human protein (within residues 250-300).
Conjugate	Unconjugated
Form	Liquid
Concentration	1.0 mg/mL
Purification	Antigen affinity chromatography
Storage buffer	PBS
Contains	0.02% sodium azide
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.

Species Reactivity	
Species reactivity	Rat, Zebrafish, C. elegans, Chicken, Fruit fly, Human, Mouse, Sheep
Published species	Human, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	1:150
Immunohistochemistry (Paraffin) (IHC (P))	1:200
Western Blot (WB)	0.5 µg/mL
Immunocytochemistry (ICC/IF)	1:50

Published Applications	
Immunohistochemistry (IHC)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

This antibody is predicted to react with zebrafish, c. elegans, primate, bovine, and drosophila based on 100% sequence homology. Suggested positive control: HeLa whole cell extract.

Background/Target Information

GRP78 is a 78 kDa glucose regulated protein that belongs to the family of heat shock proteins that include HSP70. GRP78 is a resident protein of the endoplasmic reticulum (ER) and associates transiently with a variety of newly synthesized secretory and membrane proteins. GRP78 may also interact with mutant and misfolded proteins, marking them for degradation. The highly conserved sequence Lys-Asp-Glu-Leu (KDEL) is present at the C-terminus of GRP78 and other resident ER proteins including glucose regulated protein 94 (GRP94) and protein disulfide isomerase (PDI). The KDEL signal is recognized by the KDEL receptor and this interaction ensures recycling of escaped ER proteins back to the ER. GRP78's involvement in correct folding of proteins and degradation of misfolded proteins is via its interaction with DNAJC10, probably to facilitate the release of DNAJC10 from its substrate. GRP78 is critical for maintenance of cell homeostasis and the prevention of apoptosis. GRP78 protein levels have been shown to be a reliable biomarker of hypoglycemia and serves a neuroprotective function in neurons exposed to glutamate and oxidative stress. GRP78 levels are reduced in the brains of Alzheimer's Disease patients, and decreased expression of GRP78 is found associated with missense mutations in the human presenilin-1 (PS1) gene. Further, the induction of the GRP78 protein has been associated with the development of drug-resistance to antitumor drugs.

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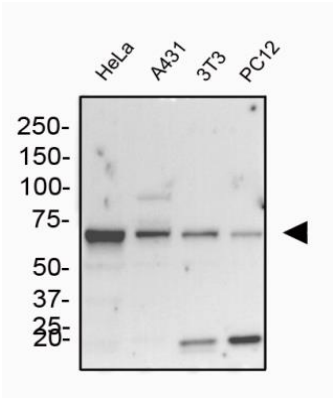
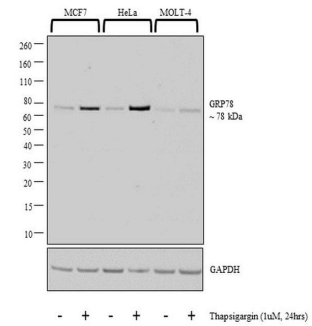
Product Images For GRP78 Polyclonal Antibody



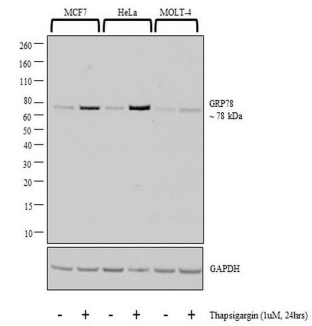
GRP78 Antibody (PA5-22967) in WB

Western blot analysis of GRP78 in human HeLa and A431 cells, mouse 3T3 cells and rat PC12 cells. Samples were incubated in GRP78 polyclonal antibody (Product # PA5-22967) using a dilution of 1.0 µg/mL followed by an anti-rabbit HRP secondary antibody. separated on a 7.5% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. Detection: chemiluminescence.



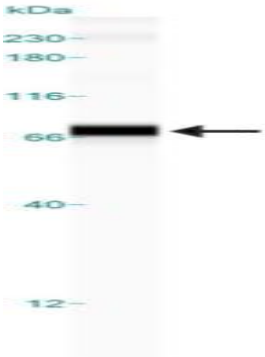
GRP78 Antibody (PA5-22967)

Altered expression of target protein upon cell treatment demonstrates antibody specificity. Western blot analysis of GRP78 using with GRP78 Polyclonal Antibody (Product # PA5-22967) shows an induction upon thapsigargin treatment. {TM}



GRP78 Antibody (PA5-22967) in WB

Western blot analysis was performed on whole cell extract (30 µg lysate) of MCF7 (Lane 1), MCF7 treated with Thapsigargin (1 µM, 24 hrs) (Lane 2), HeLa (Lane 3), HeLa treated with Thapsigargin (1 µM, 24 hrs) (Lane 4), MOLT-4 (Lane 5), and MOLT-4 treated with Thapsigargin (1 µM, 24 hrs) (Lane 6). The blot was probed with Anti-GRP78 Polyclonal Antibody (Product # PA5-22967, 1:2,000 dilution) and detected by chemiluminescence using Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, HRP conjugate (Product # A27036, 0.25 µg/mL, 1: 4,000 dilution). A 78 kDa band corresponding to GRP78 was observed in all cell lines tested and was enhanced upon Thapsigargin treatment.



GRP78 Antibody (PA5-22967) in WB

Western blot analysis of GRP78 in 0.1 mg/mL HeLa lysate. Samples were incubated in GRP78 polyclonal antibody (Product # PA5-22967). This experiment was performed under reducing conditions using the 12-230 kDa separation system.

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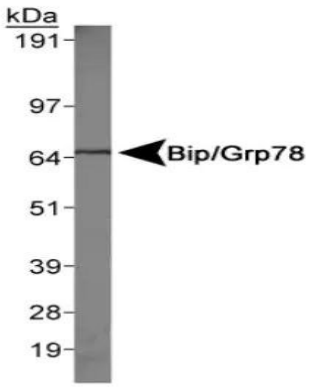
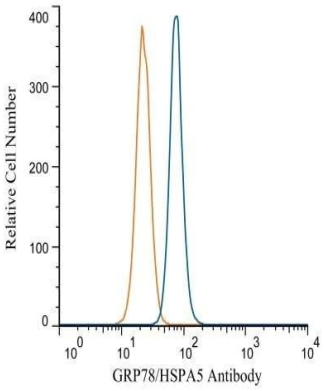


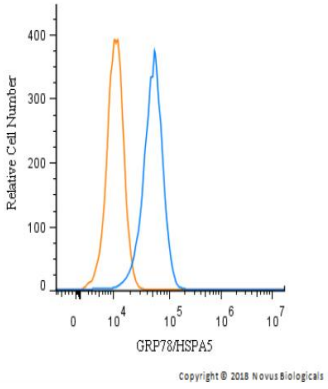
GRP78 Antibody (PA5-22967) in WB

Western blot analysis of GRP78 in HeLa whole cell extracts. Sample was incubated in GRP78 polyclonal antibody (Product # PA5-22967).



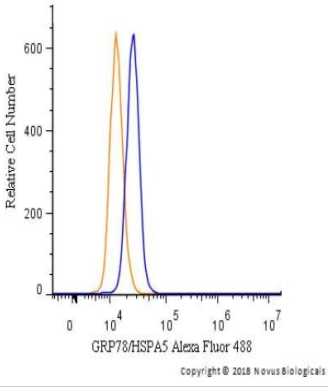
GRP78 Antibody (PA5-22967) in Flow

Flow cytometry of GRP78 in HeLa cells (blue) and a matched isotype control (orange). Samples were incubated in GRP78 polyclonal antibody (Product # PA5-22967) using a dilution of 1 µg of antibody added to 100 µL of staining buffer and cells were incubated for 30 minutes at room temperature. Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Both antibodies were conjugated to Alexa Fluor 488.



GRP78 Antibody (PA5-22967) in Flow

Flow cytometry of GRP78 in HeLa with and a matched isotype control. Samples were incubated in GRP78 polyclonal antibody (Product # PA5-22967) using a dilution of 1 µg/mL for 30 minutes at room temperature followed by a Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Dylight™ 550. Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin.



GRP78 Antibody (PA5-22967) in Flow

Flow cytometry of GRP78 in NIH3T3 cells (blue) and a matched isotype control (orange). Samples were incubated in GRP78 polyclonal antibody (Product # PA5-22967) using a dilution of 5 µg/mL for 30 minutes at room temperature. Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Both antibodies were conjugated to Alexa Fluor 488.

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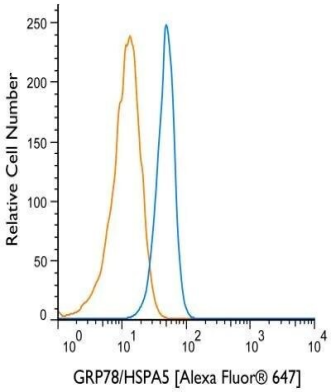

GRP78 Antibody (PA5-22967) in Flow

Flow cytometry of GRP78 in Jurkat cells. Samples were incubated in GRP78 polyclonal (Product # PA5-22967) using a dilution of 2 µg/mL for 30 minutes at room temperature. Antibody (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Both antibodies were conjugated to Alexa Fluor 647.

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PubMed References For GRP78 Polyclonal Antibody

1 Immunohistochemistry References

Species / Dilution	Summary
	PA5-22967 was used in immunohistochemistry to elucidate model organisms and conserved pharmacological rescue of hereditary spastic paraplegia-related phenotypes
Not Applicable / 1:50	Human molecular genetics (2016; 25: 1088) **"Conserved pharmacological rescue of hereditary spastic paraplegia-related phenotypes across model organisms."** Author(s):Julien C,Lissouba A,Madabattula S,Fardghassemi Y,Rosenfelt C,Androschuk A,Strautman J,Wong C,Bysice A, O'sullivan J,Rouleau GA,Drapeau P,Parker JA,Bolduc FV PubMed Article URL:http://dx.doi.org/10.1093/hmg/ddv632

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