abcam

ab92516

Anti-Calreticulin antibody [EPR3924] - ER Marker

Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) is a rabbit monoclonal antibody detecting Calreticulin in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **African green monkey, Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 100 publications
- Trusted since 2010

Lab Essentials | Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 50% Tissue culture supernatant, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR3924
Purification technique	Affinity purification Protein A
Concentration	0.455 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/250 - 1/500
Notes	The use of a HRP/AP polymerized secondary antibody is recommended for enhanced staining. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/250 - 1/500
Notes	The use of a HRP/AP polymerized secondary antibody is recommended for enhanced staining. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Human
Dilution info	1/250 - 1/500
Notes	The use of a HRP/AP polymerized secondary antibody is recommended for enhanced staining. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

WB

Tested

Species	Mouse

Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	African green monkey
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	We recommend 100% methanol as fixation agent as paraformaldehyde (PFA) results in nonspecific staining in some cell lines.

Expected

Species	Mouse, Rat, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Target data

See full target information CALR

Function Calcium-binding chaperone that promotes folding, oligomeric assembly and quality control in the endoplasmic reticulum (ER) via the calreticulin/calnexin cycle. This lectin interacts transiently with almost all of the monoglucosylated glycoproteins that are synthesized in the ER (PubMed:7876246). Interacts with the DNA-binding domain of NR3C1 and mediates its nuclear export (PubMed:11149926). Involved in maternal gene expression regulation. May participate in oocyte maturation via the regulation of calcium homeostasis (By similarity). Present in the cortical granules of non-activated oocytes, is exocytosed during the cortical reaction in response to oocyte activation and might participate in the block to polyspermy (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C

Notes

Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P, WB in african green monkey, human, mouse, rat samples.

Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) has been cited over 100 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

The specificity of Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) has been confirmed by testing in knockout samples.

Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) has 6 independent reviews from customers.

Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) specifically detects Calreticulin (UniProt ID: P27797; Molecular weight: 46kDa) and is sold in 100 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone EPR3924 - ab271865.

Antibody clone EPR3924 is also available pre-conjugated to a variety of labels for your convenience - HRP, Alexa Fluor® 488, Alexa Fluor® 647, PE, Alexa Fluor® 405, Alexa Fluor® 555, Alexa Fluor® 594 (ab195511, ab196158, ab196159, ab209577, ab210431, ab275117, ab275343).

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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

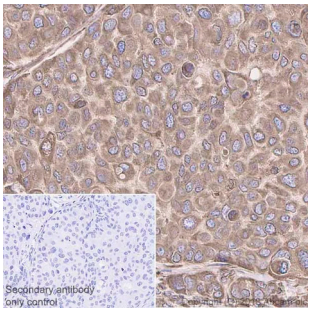
We do not recommend this combination. It is not covered by our product promise.

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.

19 product images

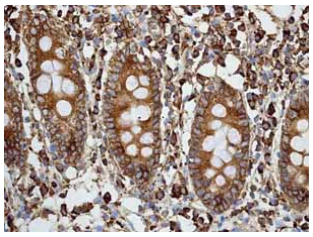


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling Calreticulin with ab92516 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining human breast carcinoma.The section was incubated with ab92516 for 30 mins at room temperature. Counterstained with Hematoxylin. Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer pH 9.0).

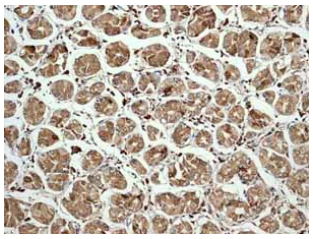
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Formalin-fixed, paraffin-embedded normal human colon tissue stained for Calreticulin using ab92516 at 1/250 dilution in immunohistochemical analysis.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

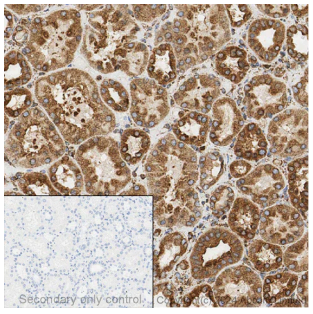


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Formalin-fixed, paraffin-embedded normal human stomach tissue stained for Calreticulin using ab92516 at 1/250 dilution in immunohistochemical analysis.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

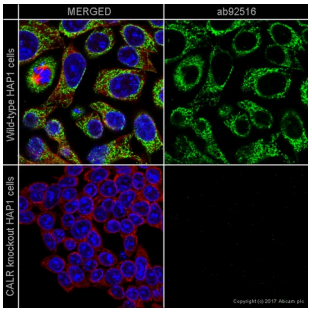


Immunohistochemistry - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Immunohistochemical analysis of formalin fixed paraffin embedded human kidney labelling Calreticulin with ab92516 at a concentration of 0.004 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH 8.5 for 32 mins.

ab92516 anti-Calreticulin [EPR3924] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual)

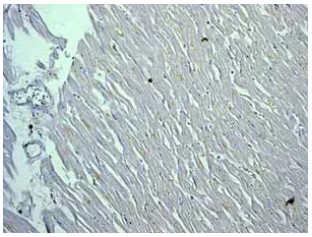


Immunocytochemistry/ Immunofluorescence - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Calreticulin antibody

ab92516 staining Calreticulin in wild-type HAP1 cells (top panel) and CALR knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min) permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab92516 at 1/500 and ab195889 at 1/250 dilution (shown in pseudocolour red) overnight at +4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

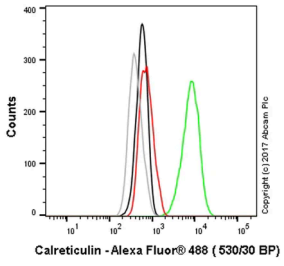
Alexa Fluor® 488 (ab196158) and Alexa Fluor® 647 (ab196159) conjugated versions are available for this clone.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

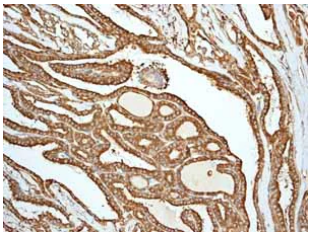
ab92516 showing negative staining in Normal human heart tissue.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Flow Cytometry (Intracellular) staining using rabbit Anti-Calreticulin antibody

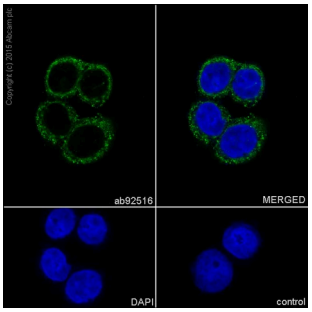
Overlay histogram showing HAP1 wildtype (green line) and HAP1-CALR knockout cells (red line) stained with ab92516. The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab92516, 1µg/ml) for 30 min at 22°C. The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit IgG (H&L) preadsorbed (ab150081) at 1/2000 dilution for 30 min at 22°C. A rabbit IgG isotype control antibody (ab172730) was used at the same concentration and conditions as the primary antibody (HAP1 wildtype - black line, HAP1-CALR knockout - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity). Acquisition of >5,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter.
Alexa Fluorr® 488 (ab196158) and Alexa Fluorr® 647 (ab196159) conjugated versions are available for this clone.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

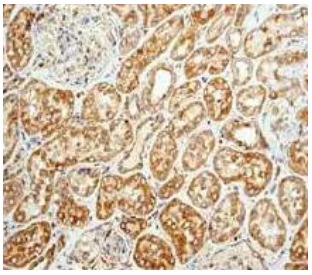
Formalin-fixed, paraffin-embedded Papillary carcinoma of human thyroid gland tissue.stained for Calreticulin using ab92516 at 1/250 dilution in immunohistochemical analysis.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Calreticulin antibody

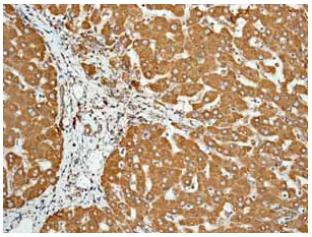
Immunocytochemistry/Immunofluorescence analysis of HT-29 (human colorectal adenocarcinoma) labelling Calreticulin with purified ab92516 at 1/500. Cells were fixed with 100% methanol. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody (ab150077). Nuclei counterstained with DAPI (blue).
Control: PBS only



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

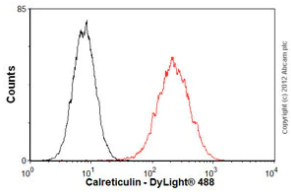
ab92516 at 1/250 dilution staining Calreticulin in paraffin embedded Human kidney tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

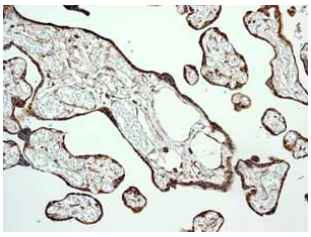
Formalin-fixed paraffin-embedded normal human liver tissue stained for Calreticulin using ab92516 at 1/250 dilution in immunohistochemical analysis.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Flow Cytometry (Intracellular) staining using rabbit Anti-Calreticulin antibody

Overlay histogram showing HeLa cells stained with ab92516 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab92516, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

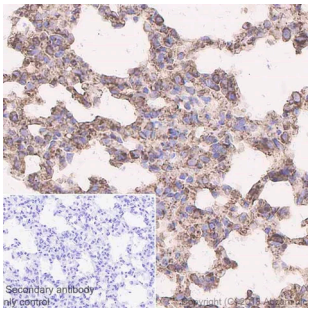


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Formalin-fixed, paraffin-embedded normal human placenta tissue stained for Calreticulin using ab92516 at 1/250 dilution in immunohistochemical analysis.

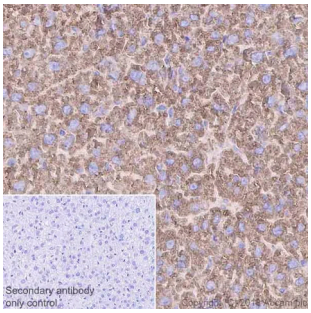
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Immunohistochemical analysis of paraffin-embedded Rat lung tissue labeling Calreticulin with ab92516 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining on rat lung. The section was incubated with ab92516 for 30 mins at room temperature. Counterstained with Hematoxylin. Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer pH 9.0). Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

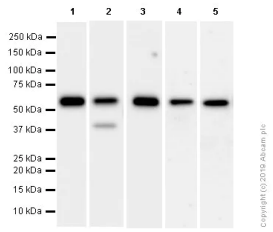


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calreticulin antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling Calreticulin with ab92516 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining on mouse liver.The section was incubated with ab92516 for 30 mins at room temperature.

Counterstained with Hematoxylin. Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer pH 9.0).
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).



Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Blocking/Diluting buffer and concentration: 5% NFDM/TBST
Exposure time: Lane 1 to 3: 10 seconds; Lane 4 and 5: 130 seconds

All lanes:
Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) at 1/10000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) Whole cell lysates at 15 µg

Lane 2:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 3:
Mouse brain lysates at 15 µg

Lane 4:
Rat brain lysates at 15 µg

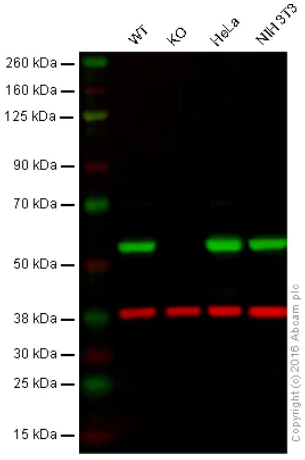
Lane 5:
COS-1 (African green monkey kidney fibroblast-like) whole cell lysates at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 48 kDa

Observed band size: 55 kDa



Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Western blot staining using rabbit Anti-Calreticulin antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Calreticulin knockout HAP1 cell lysate (20 µg)

Lane 3: HeLa cell lysate (20 µg)

Lane 4: NIH3T3 cell lysate (20 µg)

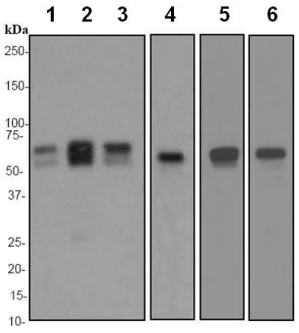
Lanes 1 - 4: Merged signal (red and green). Green - ab92516 observed at 55 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab92516 was shown to specifically react with Calreticulin when Calreticulin knockout samples were used. Wild-type and Calreticulin knockout samples were subjected to SDS-PAGE. ab92516 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW)

preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Predicted band size: 48 kDa

Observed band size: 55 kDa



Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

All lanes:
Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516) at 1/1000 dilution

Lane 1:
SH-SY5Y cell lysate at 10 µg

Lane 2:
HL-60 cell lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

Lane 4:
HeLa cell lysate at 10 µg

Lane 5:
Human fetal kidney lysate at 10 µg

Lane 6:
Human fetal brain lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 48 kDa

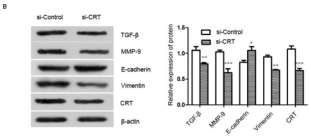


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-Calreticulin antibody [EPR3924] - ER Marker (ab92516)

Calreticulin Western blot staining using rabbit Anti-Calreticulin antibody

Calreticulin western blot using anti-Calreticulin antibody [EPR3924] - ER Marker ab92516. Publication image and figure legend from Ye, D., Zhu, J., et al., 2020, J Cancer, PubMed 31956372.

ab92516 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab92516 please see the product overview.

Silencing of CRT expression inhibits EMT, migration and invasion of NPC CNE2 cells. CNE2 cells were transfected with CRT-specific si-RNA (si-CRT) and si-Control, respectively. (A) Morphologies of si-CRT and si-Control NPC CNE2 cells. (B) The effect of Silencing of CRT expression on E-cadherin, vimentin, MMP-9 and TGF-β protein expression was measured by Western blot. (C) NPC CNE2 cell

migration and invasion images and data analysis after Silencing of CRT (expression1x200). Data are shown as mean±SD. *p<0.05, **p<0.01, ***p<0.001.

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