

Anti-PI 3 Kinase p85 alpha antibody [EPR18702]

Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) is a rabbit monoclonal antibody detecting PI 3 Kinase p85 alpha in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **African green monkey, Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 220 publications

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, 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	EPR18702
Purification technique	Affinity purification Protein A
Concentration	0.881 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	African green monkey
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Species	Human
Dilution info	1/250
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/150
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Human
Dilution info	1/150
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

[See full target information PIK3R1](#) 

Function	Binds to activated (phosphorylated) protein-Tyr kinases, through its SH2 domain, and acts as an adapter, mediating the association of the p110 catalytic unit to the plasma membrane. Necessary for the insulin-stimulated increase in glucose uptake and glycogen synthesis in insulin-sensitive tissues. Plays an important role in signaling in response to FGFR1, FGFR2, FGFR3, FGFR4, KITLG/SCF, KIT, PDGFRA and PDGFRB. Likewise, plays a role in ITGB2 signaling (PubMed:17626883, PubMed:19805105, PubMed:7518429). Modulates the cellular response to ER stress by promoting nuclear translocation of XBP1 isoform 2 in a ER stress- and/or insulin-dependent manner during metabolic overloading in the liver and hence plays a role in glucose tolerance improvement (PubMed:20348923).
-----------------	--

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	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?

Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in African green monkey, Human, Mouse, Rat samples.

What is the molecular weight of PI 3 Kinase p85 alpha?

Anti-PI 3 Kinase p85 alpha [EPR18702] (ab191606) specifically detects a band for PI 3 Kinase p85 alpha (UniProt: Q63787) at a molecular weight of 84kDa.

Trusted by the scientific community

Anti-PI 3 Kinase p85 alpha [EPR18702] (ab191606) was first used in a scientific publication in 2016 and has been cited over 220 times in peer-reviewed journals.

Specificity confirmed

The specificity of Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) has been confirmed by Western blot testing in PIK3R1 Knockout HAP1 cells.

Other related products

We have a range of other formats of antibody clone [EPR18702] also available for your convenience: ab191606, Carrier free - ab223792, APC - ab225369, PE - ab225370, Alexa Fluor® 488 - ab225371

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.

Trial sizes available!

Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PI 3 Kinase p85 alpha also known as PI3KR1 or phospho PI3K is a regulatory subunit of phosphoinositide 3-kinase (PI3K) that plays a fundamental role in various signaling pathways. The p85 protein has a molecular weight of approximately 85 kDa. This protein is widely expressed in many cell types facilitating essential cellular functions by forming a heterodimer with the class I PI3K catalytic subunit often implicated in regulating lipid signaling pathways.
Biological function summary	P85 alpha modulates intracellular signaling by interacting with other proteins in a complex formation with catalytic subunit p110. This interaction enables the initiation of downstream signaling cascades controlling cell growth proliferation and survival. PI 3 kinase activity mediated by p85 alpha is integral to cellular homeostasis and metabolism helping to execute cellular responses to a variety of growth factors and hormones.
Pathways	PI 3 Kinase p85 alpha integrates into two principal signaling networks: the PI3K-Akt and mTOR pathways. These pathways are instrumental for regulating anabolic processes and cell survival. The p85 form of PI3K interacts with additional proteins such as Akt and mTOR coordinating cellular energy balance promoting protein synthesis and inhibiting apoptosis. Through these interactions the protein ensures that cells respond accurately to nutritional and stress signals.
Associated diseases and disorders	Alterations in PI 3 Kinase p85 alpha function have been linked to cancer and type 2 diabetes. Aberrant signaling involving PI3K-Akt-mTOR pathways due to mutations in PI3KR1 can contribute to tumor progression and chemoresistance. Moreover dysfunction of this pathway affects insulin signaling connecting p85 alpha to diabetic pathologies. Proteins such as IRS-1 (insulin receptor substrate 1) act alongside p85 alpha in mediating these disease-associated processes emphasizing its importance in maintaining physiological balance.

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.

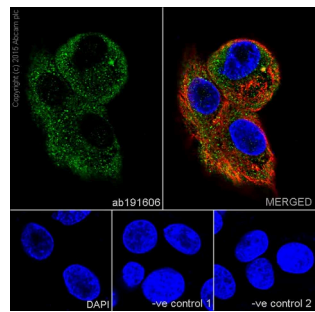
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

12 product images



Immunocytochemistry/ Immunofluorescence - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

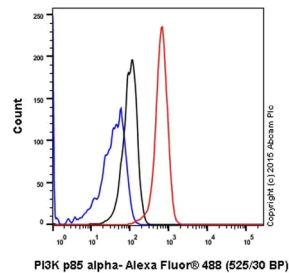
PI 3 Kinase p85 alpha Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling PI3K p85 with ab191606 at 1/250 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HepG2 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:

-ve control 1: ab191606 at 1/500 dilution followed by ab150120 at 1/1000 dilution.

-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.

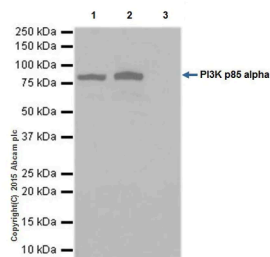


Flow Cytometry (Intracellular) - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Flow Cytometry (Intracellular) staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Overlay histogram showing HepG2 cells fixed in 4% PFA and stained with ab191606 at a dilution of 1/80 (red line). The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit at a dilution of 1/500. Rabbit monoclonal IgG (ab172730) was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).

Immunoprecipitation - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)



PI3K p85 was immunoprecipitated from 1mg of MCF7 (Human breast adenocarcinoma cell line) whole cell lysate with ab191606 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab191606 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

Lane 1: MCF7 whole cell lysate, 10µg (Input).

Lane 2: ab191606 IP in MCF7 whole cell lysate.

Lane 3: Rabbit IgG, monoclonal - Isotype Control ([ab172730](#)) instead of ab191606 in MCF7 whole cell lysate.

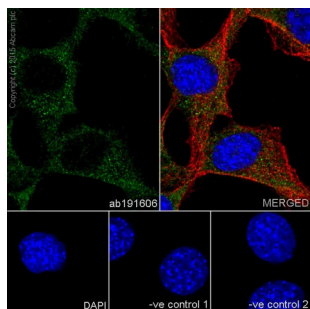
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:

Immunoprecipitation - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

Predicted band size: 83 kDa



Immunocytochemistry/ Immunofluorescence - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

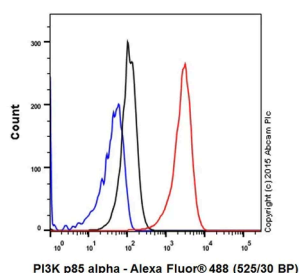
PI 3 Kinase p85 alpha Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 100% Methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling PI3K p85 with ab191606 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on NIH/3T3 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody - Loading Control ([ab7291](#)) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed ([ab150120](#)) at 1/1000 dilution (red).

The negative controls are as follows:

-ve control 1: ab191606 at 1/500 dilution followed by [ab150120](#) at 1/1000 dilution.

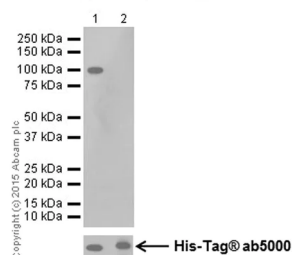
-ve control 2: [ab7291](#) at 1/1000 dilution followed by [ab150077](#) at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Flow Cytometry (Intracellular) staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling PI3K p85 with ab191606 at 1/150 dilution (red) compared with a Rabbit IgG, monoclonal - Isotype control ([ab172730](#)) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti Rabbit IgG (Alexa Fluor® 488) at 1/500 dilution was used as the secondary antibody.



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

Blocking/Dilution buffer: 5% NFDM/TBST.

Human PI3K p85 alpha full length recombinant protein contain aa1-724 with a His-Tag® (Cat#[ab84769](#)). Human PI3K p85 beta full length recombinant protein contain aa1-728 with a His-Tag® (Cat#[ab125568](#)).

All lanes:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/20000 dilution

Lane 1:

Human PI3K p85 alpha full length recombinant protein at 0.01 µg

Lane 2:
Human PI3K p85 beta full length recombinant protein at 0.01 µg

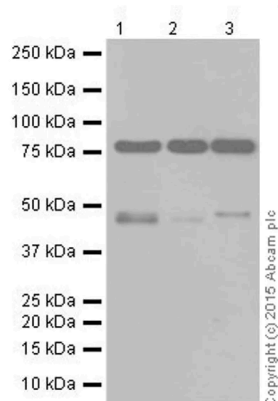
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

Predicted band size: 41 kDa, 83 kDa

Observed band size: 55-60 kDa

Exposure time: 5s



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Western blot staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Blocking/Dilution buffer: 5% NFDM/TBST.

The molecular weight observed is consistent with what have been described in the literatures (PMID: 8921377, 12649157).

All lanes:
Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/1000 dilution

Lane 1:
Human fetal liver lysate at 10 µg

Lane 2:
Human fetal heart lysate at 10 µg

Lane 3:
Human fetal kidney lysate at 10 µg

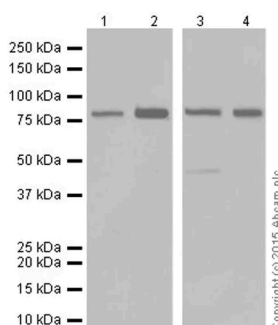
Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 83 kDa

Observed band size: 46 kDa, 85 kDa

Exposure time: 3min



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Western blot staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: Lane 1 and 2: 10 seconds; Lane 3 and 4: 3 seconds.

The molecular weight observed is consistent with what have been described in the literatures (PMID: 8921377, 12649157).

All lanes:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/1000 dilution

Lane 1:

HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

Lane 2:

MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 3:

Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Lane 4:

Raji (Human Burkitt's lymphoma cell line) whole cell lysate at 20 µg

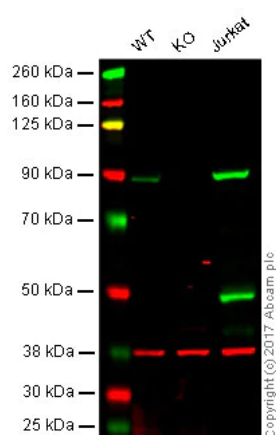
Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 83 kDa

Observed band size: 46 kDa, 85 kDa



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Western blot staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)

Lane 2: PIK3R1 knockout HAP1 whole cell lysate (20 µg)

Lane 3: Jurkat whole cell lysate (20 µg)

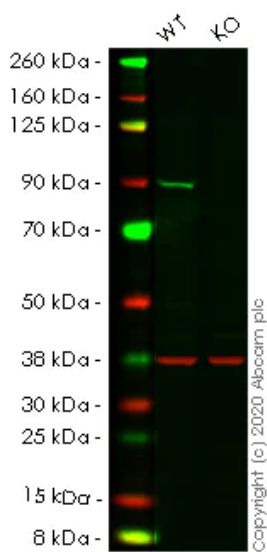
Lanes 1 - 4: Merged signal (red and green). Green - ab191606 observed at 90 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab191606 was shown to specifically react with PIK3R1 when PIK3R1 knockout samples were used. Wild-type and PIK3R1 knockout samples were subjected to SDS-PAGE. ab191606 and ab9484 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

Predicted band size: 83 kDa



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Western blot staining using rabbit Anti-PI 3 Kinase p85 alpha antibody

Lanes 1- 2: Merged signal (red and green). Green - ab191606 observed at 90 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab191606 was shown to react with PI 3 Kinase p85 alpha in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab265116 (knockout cell lysate ab257029) was used. Wild-type HeLa and PIK3R1 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab191606 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. 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 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/1000 dilution

Lane 1:

Wild-type HeLa cell lysate at 20 µg

Lane 2:

PIK3R1 knockout HeLa cell lysate at 20 µg

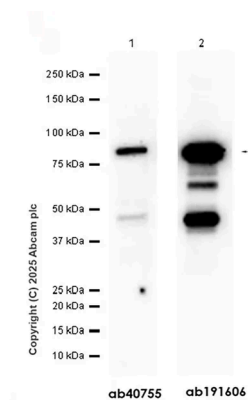
Lane 2:

Western blot - Human PIK3R1 (PI 3 Kinase p85 alpha) knockout HeLa cell line (ab265116)

Performed under reducing conditions.

Predicted band size: 83 kDa

Observed band size: 90 kDa



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

PI 3 Kinase p85 alpha Western blot staining of Jurkat (human T cell leukemia T lymphocyte) whole cell lysate using rabbit Anti-PI 3 Kinase p85 alpha antibody

Blocking and diluting buffer and concentration: 5% NFDm/TBST.

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

Compared with ab40755, ab191606 has higher sensitivity. We recommend ab191606 as an alternative for testing western blot.

We suggest optimizing experimental protocols (increasing lysate amount, using lower dilution or higher sensitivity ECL substrate) to improve results when using ab40755 in western blot.

Lane 1:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EP380Y] (ab40755) at 1/1000 dilution

Lane 2:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/1000 dilution

All lanes:

Jurkat (human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

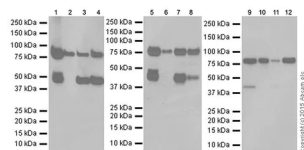
Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Observed band size: 85 kDa

Exposure time: 40s



Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606)

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: Lane 1-8: 3 minutes; Lane 9-12: 10 seconds.

The molecular weight observed is consistent with what have been described in the literatures (PMID: 8921377, 12649157).

All lanes:

Western blot - Anti-PI 3 Kinase p85 alpha antibody [EPR18702] (ab191606) at 1/1000 dilution

Lane 1:

Mouse brain lysate at 10 μ g

Lane 2:

Mouse heart lysate at 10 μ g

Lane 3:

Mouse kidney lysate at 10 μ g

Lane 4:

Mouse spleen lysate at 10 μ g

Lane 5:

Rat brain lysate at 10 μ g

Lane 6:

Rat heart lysate at 10 μ g

Lane 7:

Rat kidney lysate at 10 μ g

Lane 8:

Rat spleen lysate at 10 μ g

Lane 9:

C6 (Rat glial tumor cell line) whole cell lysate at 10 μ g

Lane 10:

RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 μ g

Lane 11:

PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate at 10 μ g

Lane 12:

NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate at 10 μ g

Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

Predicted band size: 83 kDa

Observed band size: 46 kDa, 85 kDa

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