abcam

ab179530

Anti-Phosphotyrosine antibody [EPR16871]

Anti-Phosphotyrosine antibody [EPR16871] (ab179530) is a rabbit monoclonal antibody detecting Phosphotyrosine in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF, ELISA, Dot Blot**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR16871
Purification technique	Affinity purification Protein A
Concentration	1.46 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Modified Amino Acid

Dilution info	1/100
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ELISA

Tested

Species	Modified Amino Acid
Dilution info	1/6400
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	1/1000
Notes	-

Not recommended

Species	Modified Amino Acid
Dilution info	-
Notes	-

WB

Tested

Species	Modified Amino Acid
Dilution info	1/1000
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Modified Amino Acid
Dilution info	1/100
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Modified Amino Acid
Dilution info	1/160
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information Phosphotyrosine

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-Phosphotyrosine antibody [EPR16871] (ab179530) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF), ELISA, Dot Blot.

Trusted by the scientific community
Anti-Phosphotyrosine [EPR16871] (ab179530) was first used in a scientific publication in 2014 and has been cited over 10 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR16871] also available for your convenience: ab179530, Alexa Fluor® 488 - ab205479, Alexa Fluor® 647 - ab205480, Biotin - ab222255, Carrier free - ab240219

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	Phosphotyrosine also known simply as pY is a post-translational modification where a phosphate group binds to the hydroxyl group of a tyrosine amino acid in proteins. This small modification can have a huge impact on proteins' function and interaction. Phosphotyrosine has a molecular weight of approximately 216 Da when it stands on its own. This modification can occur in various proteins expressed widely across tissues playing a role in signaling cell division and morphological changes.
Biological function summary	Phosphorylated tyrosine residues modify the function and activity of proteins within cells. It is a critical component of signal transduction pathways and can alter protein functions when becoming part of large protein complexes. It often regulates receptor proteins and intracellular kinases modifying their ability to interact with other proteins like SH2 and PTB domain-containing proteins. Phosphotyrosine antibodies like anti-phosphotyrosine Ig2 are helpful research tools for detecting these modifications.
Pathways	The modification of tyrosine to phosphotyrosine participates significantly in pathways such as the MAPK/ERK pathway and the PI3K/AKT pathway. These pathways are important for various cellular processes including growth and survival. Proteins like EGFR and PDGFR regulate signaling cascades by phosphorylation of tyrosine residues and often interact with phosphotyrosine and phosphotyrosine antibodies importantly.
Associated diseases and disorders	The dysregulation of phosphotyrosine levels contributes to conditions like cancer and diabetes. Aberrant activation or overexpression of phosphotyrosine residues on receptors like HER2 and insulin receptors can promote uncontrolled cell proliferation often seen in tumors and contribute to insulin resistance respectively. As such phosphotyrosine serves not only as a biological target but also as a potential therapeutic target in the treatment of these disorders.

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.

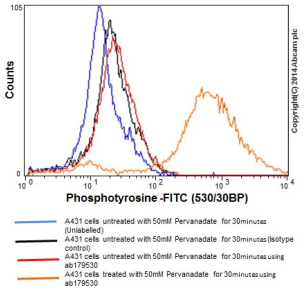
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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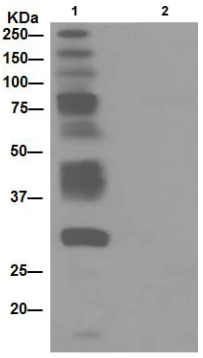
11 product images



Flow Cytometry (Intracellular) - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

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

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed Pervanadate (50mM, 30min.) treated (orange)/untreated (red)A431 (Human epidermoid carcinoma) cells labeling Phosphotyrosine with ab179530 at 1/160 dilutioncompared with a rabbit monoclonal IgG control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

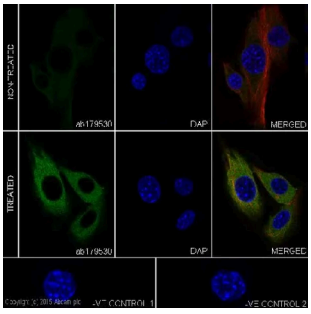


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Immunoprecipitation - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Phosphotyrosine was immunoprecipitated from 1mg of A431 (Human epidermoid carcinoma) whole cell extract treated with 1mM pervanadate for 30 minutes with ab179530 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab179530 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. Lane 1: A431 treated with 1mM pervanadate for 30 minutes whole cell extract. Lane 2: PBS instead of A431 whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Multiple bands represent phosph-tyrosine containing proteins precipitated and detected by ab179530.

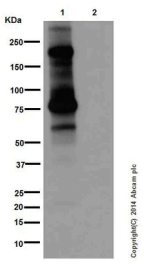
All lanes:
Immunoprecipitation - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)



Immunocytochemistry/ Immunofluorescence - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Phosphotyrosine Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Phosphotyrosine antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized C2C12 (Mouse myoblast cell line) cells labeling Phosphotyrosine with ab179530 at 1/100 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Cytoplasm staining on C2C12 cells is observed. The expression increased after treatment with H2O2 (2mM) for 10 minutes. The nuclear counterstain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:-
-ve control 1: - ab179530 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: - ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.



Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Multiple bands represent phosph-tyrosine containing proteins detected by ab179530. Blocking/Dilution buffer: 5% NFDM/TBST.

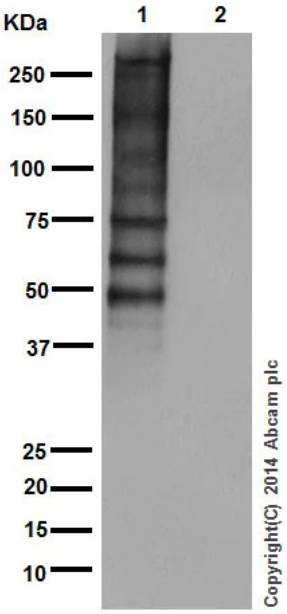
All lanes:
Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530) at 1/10000 dilution

Lane 1:
A431 (Human epidermoid carcinoma) whole cell lysates treated with 50mM pervanadate for 30 minutes at 10 µg

Lane 2:
Untreated A431 whole cell lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution



Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

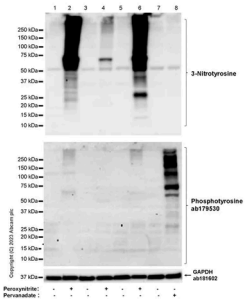
Multiple bands represent phosph-tyrosine containing proteins detected by ab179530
All lanes:
Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530) at 1/1000 dilution

Lane 1:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates treated with 1mM pervanadate for 20minutes at 10 µg

Lane 2:
Untreated Jurkat whole cell lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (H+L) Peroxidase conjugated at 1/1000 dilution



Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Phosphotyrosine Western blot staining using rabbit Anti-Phosphotyrosine antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST The identity of the bands around 50 kDa are unknown. In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution. In Western blot, Anti-phosphotyrosine antibody [EPR16871] (ab179530) staining at 1/1000 dilution.
All lanes:
Western blot - Anti-3-Nitrotyrosine antibody [EPR27217-88] (ab314438) at 1/1000 dilution

Lanes 1 and 7:
Untreated HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa treated with 3 mM peroxynitrite for 30 minutes whole cell lysate at 20 µg

Lane 3:
Untreated NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 4:
NIH/3T3 treated with 3 mM peroxynitrite for 30 minutes whole cell lysate at 20 µg

Lane 5:
Untreated PC-12 (rat adrenal gland pheochromocytoma cell) whole cell lysate at 20 µg

Lane 6:
PC-12 treated with 3 mM peroxynitrite for 30 minutes whole cell lysate at 20 µg

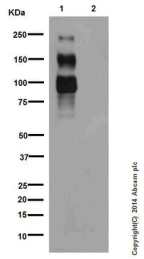
Lane 8:
HeLa treated with 1 mM pervanadate for 30 minutes whole cell lysate at 20 µg

Secondary

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

Observed band size: 1-250 kDa

Exposure time: 37s



Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Phosphotyrosine Western blot staining using rabbit Anti-Phosphotyrosine antibody

Multiple bands represent phosph-tyrosine containing proteins detected by ab179530.
Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530) at 1/1000 dilution

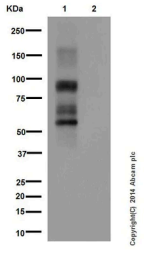
Lane 1:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysates treated with 1mM pervanadate for 10 minutes at 10 µg

Lane 2:
Untreated NIH/3T3 whole cell lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

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Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Phosphotyrosine Western blot staining using rabbit Anti-Phosphotyrosine antibody

Multiple bands represent phosph-tyrosine containing proteins detected by ab179530.
Blocking/Dilution buffer: 5% NFDM/TBST.

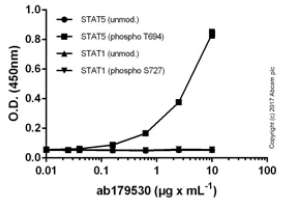
All lanes:
Western blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530) at 1/1000 dilution

Lane 1:
L6 (Rat skeletal muscle cell line) whole cell lysates treated with 1mM pervanadate for 20 minutes at 10 µg

Lane 2:
Untreated L6 whole cell lysates at 10 µg

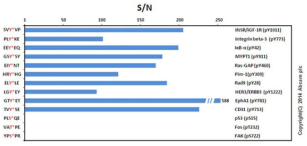
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution



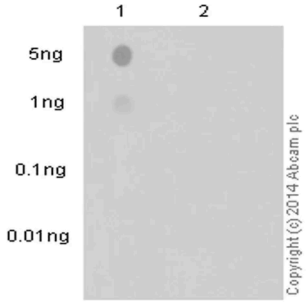
ELISA - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Serially diluted ab179530 was bound to immobilised phospho- or control peptides (STAT1 (phospho S727), STAT1 control, STAT5 (phospho T694), STAT5 control); 1 microgram per mL). The antibody was detected by Goat anti-Rabbit HRPO and signal was developed by TMB substrate.



ELISA - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

ELISA analysis of various antigens (1 µg/ml) using ab179530 at 1/6400 dilution followed by Alkaline Phosphatase-conjugated Goat Anti-Rabbit IgG (H+L) at 1/2500 dilution.
S/N = signal-to-noise ratio of phospho- versus nonphospho-peptides.



Dot Blot - Anti-Phosphotyrosine antibody [EPR16871] (ab179530)

Dot blot analysis of INSR/IGF-1R (pY1009) phospho peptide (lane 1) and INSR/IGF-1R non-phospho peptide (lane 2) labelling Phosphotyrosine with ab179530 at a dilution of 1/1000. A peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/2500).
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

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