abcam

ab245134

Anti-p75 NGF Receptor antibody [8J2]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7 - 7.4 Constituents: PBS, 3% Trehalose
Form	Lyophilized
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human NGFR aa 1-250. The exact immunogen used to generate this antibody is proprietary information. Database link P08138
Clone number	8J2
Purification technique	Affinity purification Protein A
Reconstitution	reconstitute with water at 100µL
Purification notes	Purified from TCS.

Reactivity data

IP

Tested

Species	Rat
Dilution info	1 µg/mL
Notes	-

Expected

Species	Human
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Not recommended

Species	Transfected cell line - Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Rat
Dilution info	1-5 µg/mL
Notes	Light fixation only or unfixed works best. Epitope is sensitive to fixation.

Expected

Species	Human
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1-5 µg/mL
Notes	Light fixation only or unfixed works best. Epitope is sensitive to fixation.

Not recommended

Species	Transfected cell line - Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	5-20 µg/mL
Notes	-

Species	Rat
Dilution info	5-20 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	5-20 µg/mL
Notes	-

Not recommended

Species	Transfected cell line - Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell line - Mouse
Dilution info	0.5-2 µg/mL
Notes	Non-reducing conditions only - no DTT or beta-mercapoethanol.

Species	Rat
Dilution info	0.5-2 µg/mL
Notes	Non-reducing conditions only - no DTT or beta-mercapoethanol.

Species	Human
Dilution info	0.5-2 µg/mL
Notes	Non-reducing conditions only - no DTT or beta-mercapoethanol.

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information NGFR

Function

Low affinity receptor which can bind to NGF, BDNF, NTF3, and NTF4. Forms a heterodimeric receptor with SORCS2 that binds the precursor forms of NGF, BDNF and NTF3 with high affinity, and has much lower affinity for mature NGF and BDNF (PubMed:24908487). Plays an important role in differentiation and survival of specific neuronal populations during development (By similarity). Can mediate cell survival as well as cell death of neural cells. Plays a role in the inactivation of RHOA (PubMed:26646181). Plays a role in the regulation of the translocation of GLUT4 to the cell surface in adipocytes and skeletal muscle cells in response to insulin, probably by regulating RAB31 activity, and thereby contributes to the regulation of insulin-dependent glucose uptake (By similarity). Necessary for the circadian oscillation of the clock genes BMAL1, PER1, PER2 and NR1D1 in the suprachiasmatic nucleus (SCmgetaN) of the brain and in liver and of the genes involved in glucose and lipid metabolism in the liver (PubMed:23785138). Together with BFAR negatively regulates NF-kappa-B and JNK-related signaling pathways (PubMed:22566094).

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	The p75 NGF receptor also known as p75 NGFR or anti-NTR is a transmembrane protein with a molecular mass of approximately 75 kDa. It is a member of the tumor necrosis factor receptor superfamily. This receptor is widely expressed in the nervous system particularly in neurons glial cells and Schwann cells. The p75 receptor primarily binds to neurotrophins such as nerve growth factor (NGF) influencing neuronal survival apoptosis and growth.
Biological function summary	The p75 receptor functions as an important part of a signaling complex that mediates diverse cellular responses. It often forms complexes with other receptors like TrkA but can also signal independently. In particular the p75 protein can form a biological chimera with different co-receptors influencing its downstream effects. This makes it significant in processes like apoptosis and neuronal differentiation as well as influencing neurotrophin-mediated signaling.
Pathways	The p75 receptor plays an important role in pathways involving neuronal survival and apoptosis. One key pathway involves the nerve growth factor (NGF) signaling pathway where p75 collaborates with Trk receptors enhancing or inhibiting NGF signaling based on cellular context. Another pathway is the JNK signaling pathway where the p75 receptor interacts with proteins like sortilin contributing to apoptosis and stress responses in neurons. These interactions determine the outcome of neurotrophic signaling highlighting its role in cell fate decisions.
Associated diseases and disorders	P75 receptor is associated with several neurodegenerative conditions and cancers. Its involvement in Alzheimer's disease is significant because altered p75 expression and function can contribute to neurodegeneration through apoptosis pathways. This receptor is also linked to glioblastoma where it might promote tumor progression in coordination with proteins such as sortilin. These links make p75 receptor a target of interest for therapeutic intervention in these diseases.

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.

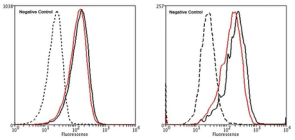
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2 product images

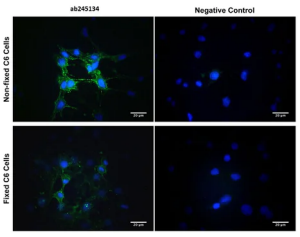


Flow Cytometry - Anti-p75 NGF Receptor antibody [8J2] (ab245134)

P75 NGF Receptor Flow Cytometry staining using mouse Anti-p75 NGF Receptor antibody

Flow Cytometric analysis of SH-SY5Y (human neuroblastoma cell line from bone marrow) (Left panel) and C6 (rat glial tumor cell line) (Right panel) staining p75 NGF Receptor using ab245134 (red lines) and a different antibody (solid black lines) at 2 µg per 10^6 cells, 60 mins on ice. Negative control is the dashed line, Non specific Control IgG.
Blocking: 200 µg/mL sheep IgG, 30 minutes on ice.

Secondary antibody: Goat anti-mouse-PE used at a 1/100 dilution for 20 mins in the dark on ice.



Immunocytochemistry/ Immunofluorescence - Anti-p75 NGF Receptor antibody [8J2] (ab245134)

P75 NGF Receptor Immunocytochemistry/ Immunofluorescence staining using mouse Anti-p75 NGF Receptor antibody

Non-fixed and 4% formaldehyde-fixed C6 (rat glial tumor cell line) cells labeling p75 NGF Receptor using ab245134 at 2 µg/ml for 1 hour (green) in ICC/IF.
Blocking: 10% normal horse serum, 30 mins.

Secondary antibody: Donkey anti-mouse-CF488A at 2 µg/mL for 1 hour.

Nuclei stained with Hoechst (blue).

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