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TrkA-pY791 Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7686e

Specification

TrkA-pY791 Antibody - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P04629
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**87497**
Antigen Region	**769-796**

TrkA-pY791 Antibody - Additional Information

Gene ID 4914

Other Names
High affinity nerve growth factor receptor, Neurotrophic tyrosine kinase receptor type 1, TRK1-transforming tyrosine kinase protein, Tropomyosin-related kinase A, Tyrosine kinase receptor, Tyrosine kinase receptor A, Trk-A, gp140trk, p140-TrkA, NTRK1, MTC, TRK, TRKA

Target/Specificity
This TrkA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 769-796 amino acids from human TrkA.

Dilution
WB~~1:2000
IHC-P~~1:25
FC~~1:25
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
TrkA-pY791 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TrkA-pY791 Antibody - Protein Information

Name NTRK1

Function Receptor tyrosine kinase involved in the development and the maturation of the central and peripheral nervous systems through regulation of proliferation, differentiation and survival of sympathetic and nervous neurons. High affinity receptor for NGF which is its primary ligand (PubMed:1281417, PubMed:15488758, PubMed:17196528, PubMed:1849459, PubMed:1850821, PubMed:22649032, PubMed:27445338, PubMed:8325889). Can also bind and be activated by NTF3/neurotrophin-3. However, NTF3 only supports axonal extension through NTRK1 but has no effect on neuron survival (By similarity). Upon dimeric NGF ligand-binding, undergoes homodimerization, autophosphorylation and activation (PubMed:1281417). Recruits, phosphorylates and/or activates several downstream effectors including SHC1, FRS2, SH2B1, SH2B2 and PLCG1 that regulate distinct overlapping signaling cascades driving cell survival and differentiation. Through SHC1 and FRS2 activates a GRB2-Ras-MAPK cascade that regulates cell differentiation and survival. Through PLCG1 controls NF-Kappa-B activation and the transcription of genes involved in cell survival. Through SHC1 and SH2B1 controls a Ras-PI3 kinase-AKT1 signaling cascade that is also regulating survival. In absence of ligand and activation, may promote cell death, making the survival of neurons dependent on trophic factors.

Cellular Location
Cell membrane; Single-pass type I membrane protein. Early endosome membrane {ECO:0000250|UniProtKB:P35739}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P35739}. Late endosome membrane {ECO:0000250|UniProtKB:P35739}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P35739}. Recycling endosome membrane {ECO:0000250|UniProtKB:P35739}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P35739}. Note=Rapidly internalized after NGF binding (PubMed:1281417). Internalized to endosomes upon binding of NGF or NTF3 and further transported to the cell body via a retrograde axonal transport. Localized at cell membrane and early endosomes before nerve growth factor (NGF) stimulation. Recruited to late endosomes after NGF stimulation. Colocalized with RAPGEF2 at late endosomes {ECO:0000250|UniProtKB:P35739, ECO:0000269|PubMed:1281417}

Tissue Location
Isoform TrkA-I is found in most non-neuronal tissues. Isoform TrkA-II is primarily expressed in neuronal cells TrkA-III is specifically expressed by pluripotent neural stem and neural crest progenitors.

TrkA-pY791 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TrkA-pY791 Antibody - Images

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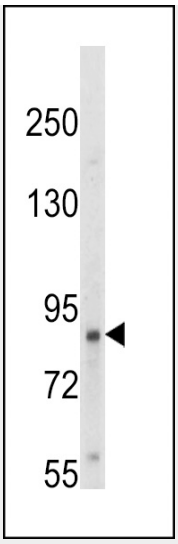
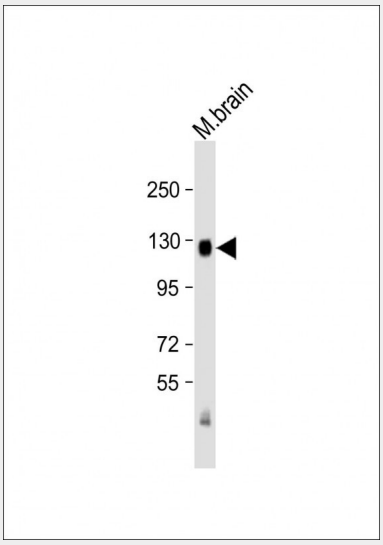
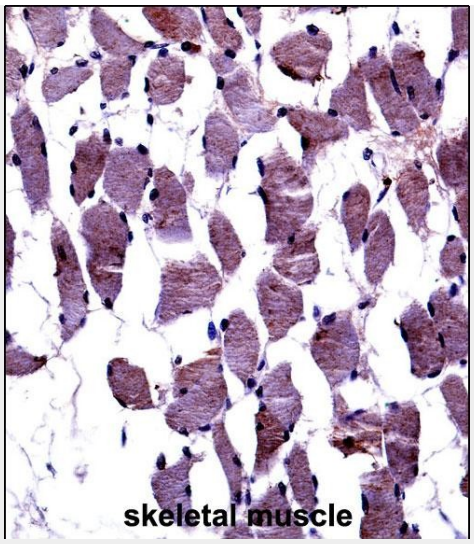


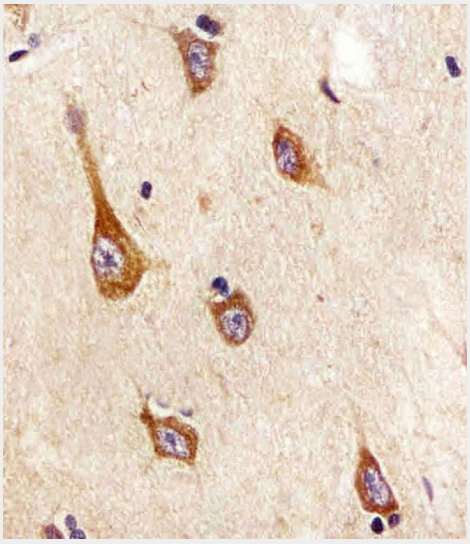
Western blot analysis of hTrkA-pY791 (Cat. #AP7686e) in HepG2 cell line lysates (35ug/lane). TRK (arrow) was detected using the purified Pab.



Anti-TrkA(Y791) Antibody at 1:2000 dilution + mouse brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 87 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



TrkA-pY791 Antibody (AP7686e)immunohistochemistry analysis in formalin fixed and paraffin embedded human skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of TrkA-pY791 Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



AP7686e staining TrkA in human brain tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

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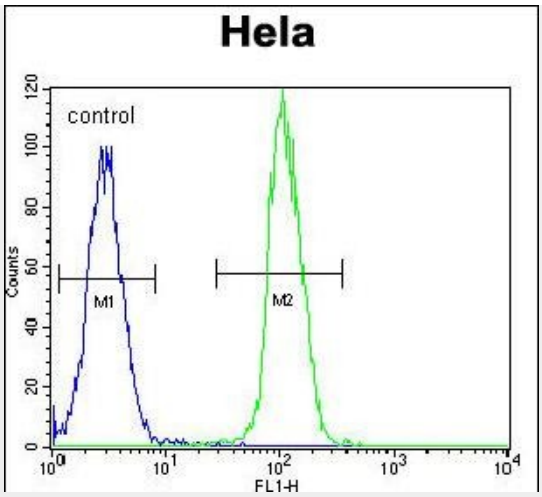
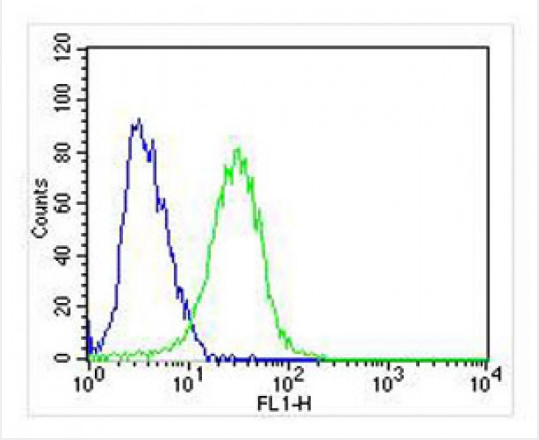


TrkA-pY791 Antibody (Cat. #AP7686e) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Overlay histogram showing SH-SY5Y cells stained with AP7686e (green line). The cells were fixed with 2% paraformaldehyde (10 min). The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP7686e, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/400 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

TrkA-pY791 Antibody - Background

TRKA (also known as NTRK1)is a member of the neurotrophic tyrosine kinase receptor (NTKR) family. This kinase is a membrane-bound receptor that, upon neurotrophin binding, phosphorylates itself and members of the MAPK pathway. The presence of this kinase leads to cell differentiation and may play a role in specifying sensory neuron subtypes. Mutations in the TRKA gene have been associated with congenital insensitivity to pain, anhidrosis, self-mutilating behavior, mental retardation and cancer.

TrkA-pY791 Antibody - References

Tokusashi, Y., et al., Int. J. Cancer 114(1):39-45 (2005).
Schulte, J.H., et al., Oncogene 24(1):165-177 (2005).
Frattini, M., et al., Oncogene 23(44):7436-7440 (2004).
Tacconelli, A., et al., Cancer Cell 6(4):347-360 (2004).

Florenes, V.A., et al., Am. J. Clin. Pathol. 122(3):412-420 (2004).