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STEP / PTPN5 Antibody (N-Term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8430a

Product Information

Application	WB, IHC-P, E
Primary Accession	P54829
Other Accession	P54830
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	63538
Antigen Region	168-198

Additional Information

Gene ID	84867
Other Names	Tyrosine-protein phosphatase non-receptor type 5, Neural-specific protein-tyrosine phosphatase, Striatum-enriched protein-tyrosine phosphatase, STEP, PTPN5
Target/Specificity	This STEP / PTPN5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 168-198 amino acids from the N-terminal region of human STEP / PTPN5.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	STEP / PTPN5 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PTPN5
Function	May regulate the activity of several effector molecules involved in synaptic plasticity and neuronal cell survival, including MAPKs, Src family kinases and

NMDA receptors.

Cellular Location Endoplasmic reticulum membrane; Multi-pass membrane protein

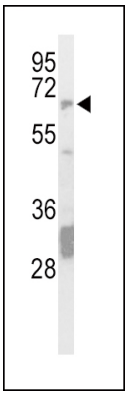
Background

STEP (striatum-enriched phosphatase) is a neural-specific protein-tyrosine phosphatase, first isolated from the rat brain. The 537-amino acid predicted human protein as isolated from cDNA sequences is between 85 and 90% identical to the mouse and rat sequences. In rat neuronal cell cultures, glutamate-mediated activation of N-methyl-D-aspartate (NMDA) receptors leads to the rapid but transient phosphorylation of extracellular signal-related kinase-2 (ERK2). NMDA-mediated influx of calcium, activates the calcium-dependent phosphatase calcineurin and the resulting dephosphorylation and activation of STEP. STEP then inactivatea ERK2 through tyrosine dephosphorylation and blocks translocation of the kinase to the nucleus. STEP plays a significant role in regulating the ERK activation and downstream signaling in neurons.

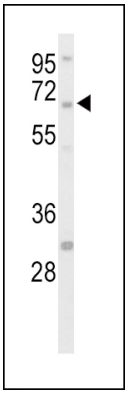
References

Ota, T., et al., Nat. Genet. 36(1):40-45 (2004).
Li, X., et al., Genomics 28(3):442-449 (1995).

Images

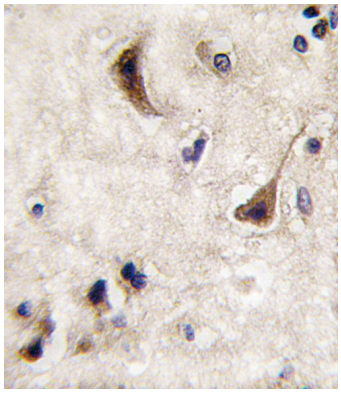


Western blot analysis of hSTEP-Q155 (Cat. #AP8430a) in mouse brain tissue lysates (35ug/lane). STEP (arrow) was detected using the purified Pab



Western blot analysis of hSTEP-Q155 (Cat. #AP8430a) in HepG2 cell line lysates (35ug/lane). STEP (arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human brain tissue reacted with STEP antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



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