

ITPK1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP18953a

Specification

ITPK1 Antibody (N-term) - Product Information

Application WB,E
Primary Accession Q13572

Other Accession <u>Q8BYN3</u>, <u>P0C0T1</u>, <u>NP 001136065.1</u>

Reactivity Human

Predicted Bovine, Mouse

Host Rabbit
Clonality Polyclonal
Isotype Rabbit IgG
Calculated MW 45621
Antigen Region 28-54

ITPK1 Antibody (N-term) - Additional Information

Gene ID 3705

Other Names

Inositol-tetrakisphosphate 1-kinase, Inositol 1, 4-trisphosphate 5/6-kinase, Inositol-triphosphate 5/6-kinase, Ins(1, 4)P(3) 5/6-kinase, ITPK1

Target/Specificity

This ITPK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 28-54 amino acids from the N-terminal region of human ITPK1.

Dilution

WB~~1:1000

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

ITPK1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

ITPK1 Antibody (N-term) - Protein Information

Name ITPK1 (HGNC:6177)



Function Kinase that can phosphorylate various inositol polyphosphate such as Ins(3,4,5,6)P4 or Ins(1,3,4)P3 (PubMed:11042108, PubMed:8662638). Phosphorylates Ins(3,4,5,6)P4 at position 1 to form Ins(1,3,4,5,6)P5 (PubMed:11042108). This reaction is thought to have regulatory importance, since Ins(3,4,5,6)P4 is an inhibitor of plasma membrane Ca(2+)-activated Cl(-) channels, while Ins(1,3,4,5,6)P5 is not. Also phosphorylates Ins(1,3,4)P3 on O-5 and O-6 to form Ins(1,3,4,6)P4, an essential molecule in the hexakisphosphate (InsP6) pathway (PubMed: 11042108, PubMed: 8662638). Also acts as an inositol polyphosphate phosphatase that dephosphorylates Ins(1,3,4,5)P4 and Ins(1,3,4,6)P4 to Ins(1,3,4)P3, and Ins(1,3,4,5,6)P5 to Ins(3,4,5,6)P4(PubMed:11909533, PubMed:17616525). May also act as an isomerase that interconverts the inositol tetrakisphosphate isomers Ins(1,3,4,5)P4 and Ins(1,3,4,6)P4 in the presence of ADP and magnesium (PubMed:11909533). Probably acts as the rate-limiting enzyme of the InsP6 pathway. Modifies TNF-alpha-induced apoptosis by interfering with the activation of TNFRSF1A-associated death domain (PubMed:11909533, PubMed:12925536, PubMed:17616525). Plays an important role in MLKL-mediated necroptosis. Produces highly phosphorylated inositol phosphates such as inositolhexakisphosphate (InsP6) which bind to MLKL mediating the release of an N-terminal auto-inhibitory region leading to its activation. Essential for activated phospho-MLKL to oligomerize and localize to the cell membrane during necroptosis (PubMed: 17616525).

Tissue Location

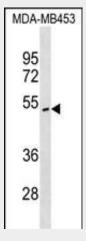
Expressed in brain > heart > skeletal muscle = kidney = pancreas = liver = placenta > lung. In brain, it is expressed in cerebellum, cerebral cortex, medulla, spinal cord, occipital lobe, frontal lobe, temporal lobe and putamen.

ITPK1 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- <u>Immunofluorescence</u>
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ITPK1 Antibody (N-term) - Images



ITPK1 Antibody (N-term) (Cat. #AP18953a) western blot analysis in MDA-MB453 cell line lysates (35ug/lane). This demonstrates the ITPK1 antibody detected the ITPK1 protein (arrow).



ITPK1 Antibody (N-term) - Background

Kinase that can phosphorylate various inositol polyphosphate such as Ins(3,4,5,6)P4 or Ins(1,3,4)P3. Phosphorylates Ins(3,4,5,6)P4 at position 1 to form Ins(1,3,4,5,6)P5. This reaction is thought to have regulatory importance, since Ins(3,4,5,6)P4 is an inhibitor of plasma membrane Ca(2+)-activated Cl(-) channels, while Ins(1,3,4,5,6)P5 is not. Also phosphorylates Ins(1,3,4)P3 on O-5 and O-6 to form Ins(1,3,4,6)P4, an essential molecule in the hexakisphosphate (InsP6) pathway. Also acts as an inositol polyphosphate phosphatase that dephosphorylate Ins(1,3,4,5)P4 and Ins(1,3,4,6)P4 to Ins(1,3,4,6)P3, and Ins(1,3,4,5,6)P5 to Ins(3,4,5,6)P4. May also act as an isomerase that interconverts the inositol tetraphosphate isomers Ins(1,3,4,5)P4 and Ins(1,3,4,6)P4 in the presence of ADP and magnesium. Probably acts as the rate-limiting enzyme of the InsP6 pathway. Modifies InsP6 approach apoptosis by interfering with the activation of InsP6 and InsP6 pathway. Modifies InsP6 approach apoptosis by interfering with the activation of InsP6 and InsP6 pathway.

ITPK1 Antibody (N-term) - References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010): Yoshida, T., et al. Int. J. Mol. Med. 25(4):649-656(2010) Oguri, M., et al. Am. J. Hypertens. 23(1):70-77(2010) Yoshida, T., et al. Int. J. Mol. Med. 24(4):539-547(2009) Chamberlain, P.P., et al. J. Biol. Chem. 282(38):28117-28125(2007)