

ITPK1 Antibody

Rabbit mAb Catalog # AP92954

Product Information

Application WB, IHC
Primary Accession Q13572
Reactivity Human
Clonality Monoclonal

Other Names Inositol 1; itpk1; ITRPK1;

IsotypeRabbit IgGHostRabbitCalculated MW45621

Additional Information

Dilution WB 1:500~1:2000 IHC 1:50~1:200

Purification Affinity-chromatography

Immunogen A synthesized peptide derived from human ITPK1

DescriptionKinase 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.

Storage Condition and Buffer Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium

azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term.

Avoid freeze / thaw cycle.

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:<u>11042108</u>, PubMed:<u>8662638</u>). Phosphorylates Ins(3,4,5,6)P4 at position 1 to form Ins(1,3,4,5,6)P5

(PubMed:<u>11042108</u>). 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

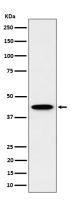
hexakisphosphate (InsP6) pathway (PubMed:<u>11042108</u>, PubMed:<u>8662638</u>). Also acts as an inositol polyphosphate phosphatase that dephosphorylates Ins(1,3,4,5)P4 and Ins(1,3,4,6)P4 to Ins(1,3,4)P3, and Ins(1,3,4,5,6)P5 to Ins(3,4,5,6)P4 (PubMed:<u>11909533</u>, PubMed:<u>17616525</u>). May also 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:<u>11909533</u>). 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:<u>11909533</u>),

PubMed:<u>12925536</u>, PubMed:<u>17616525</u>). 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:<u>17616525</u>).

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.

Images



Western blot analysis of ITPK1 expression in HepG2 cell lysate.

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