

Product name:	ITPK1 Rabbit Polyclonal Antibody
Cat number:	ABN12799
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human ITPK1. AA range:81-130
Reactivity:	Human,Mouse
Applications:	WB 1:500-1:2000,IHC 1:50-1:300,ELISA 1:2000-1:20000
Molecular Weight:	50kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

This gene encodes an enzyme that belongs to the inositol 1,3,4-trisphosphate 5/6-kinase family. This enzyme regulates the synthesis of inositol tetrakisphosphate, and downstream products, inositol pentakisphosphate and inositol hexakisphosphate. Inositol metabolism plays a role in the development of the neural tube. Disruptions in this gene are thought to be associated with neural tube defects. A pseudogene of this gene has been identified on chromosome X. [provided by RefSeq, Jul 2016],catalytic activity:ATP + 1D-myo-inositol 1,3,4-trisphosphate = ADP + 1D-myo-inositol 1,3,4,5-tetrakisphosphate.,catalytic activity:ATP + 1D-myo-inositol 1,3,4-trisphosphate = ADP + 1D-myo-inositol 1,3,4,6-tetrakisphosphate.,catalytic activity:ATP + 1D-myo-inositol 3,4,5,6-tetrakisphosphate = ADP + 1D-myo-inositol 1,3,4,5,6-pentakisphosphate.,caution:PubMed:11533064 detected some protein kinase activity and ability to phosphorylate transcription factors c-jun/JUN and ATF2. However, PubMed:15762844 showed that it does not have protein kinase activity.,cofactor:Bounds 2 magnesium ions per subunit.,function: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 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. 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. 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.,similarity:Belongs to the ITPK1 family.,similarity:Contains 1 ATP-grasp domain.,subunit:Monomer. Interacts with CSN1.,tissue specificity: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.,