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KD-Validated Anti-ITPK1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1042

Product Information

Application	WB, FC, ICC
Primary Accession	Q13572
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB6020
Calculated MW	45621
Gene Name	ITPK1
Aliases	ITPK1; Inositol-Tetrakisphosphate 1-Kinase; Inositol 1,3,4-Trisphosphate 5/6-Kinase; Ins(1,3,4)P(3) 5/6-Kinase; Inositol 1,3,4-Triphosphate 5/6 Kinase; Inositol-Triphosphate 5/6-Kinase; EC 2.7.1.134; EC 2.7.1.159; ITRPK1
Immunogen	A synthesized peptide derived from human ITPK1

Additional Information

Gene ID	3705
Other Names	Inositol-tetrakisphosphate 1-kinase, 2.7.1.134, Inositol 1, 3, 4-trisphosphate 5/6-kinase, Inositol-triphosphate 5/6-kinase, Ins(1, 3, 4)P(3) 5/6-kinase, 2.7.1.159, ITPK1 (HGNC:6177)

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-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.

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