10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-RLK Antibody

Catalog # AP60828

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P42681
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	61258

Additional Information

Gene ID	7294
Other Names	PTK4; RLK; Tyrosine-protein kinase TXK; Protein-tyrosine kinase 4; Resting lymphocyte kinase
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human RLK. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/2000), IHC (1/50 - 1/200) IHC~~WB (1/500 - 1/2000), IHC (1/50 - 1/200) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	TXK
Synonyms	PTK4, RLK
Function	Non-receptor tyrosine kinase that plays a redundant role with ITK in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation leads to the recruitment of TXK to the cell membrane, where it is phosphorylated at Tyr-420. Phosphorylation leads to TXK full activation. Also contributes to signaling from many receptors and participates in multiple downstream pathways, including regulation of the actin cytoskeleton. Like ITK, can phosphorylate PLCG1, leading to its localization in lipid rafts and activation, followed by subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates

into the nucleus to perform its transcriptional duty. Plays a role in the positive regulation of IFNG transcription in T- helper 1 cells as part of an IFNG promoter-binding complex with PARP1 and EEF1A1 (PubMed:11859127, PubMed:17177976). Within the complex, phosphorylates both PARP1 and EEF1A1 (PubMed:17177976). Also phosphorylates key sites in LCP2 leading to the up-regulation of Th1 preferred cytokine IL-2. Phosphorylates 'Tyr-201' of CTLA4 which leads to the association of PI-3 kinase with the CTLA4 receptor.

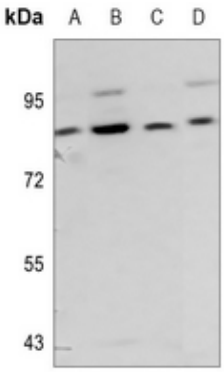
Cellular Location

Cytoplasm. Nucleus. Cell membrane; Peripheral membrane protein. Note=Localizes in the vicinity of cell surface receptors in the plasma membrane after receptor stimulation Translocates into the nucleus and enhances IFN-gamma gene transcription in T-cells

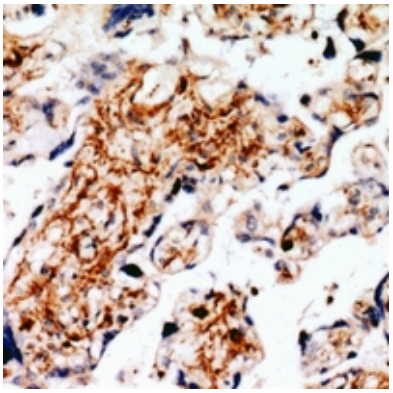
Tissue Location

Expressed in T-cells and some myeloid cell lines. Expressed in Th1/Th0 cells with IFN-gamma-producing potential

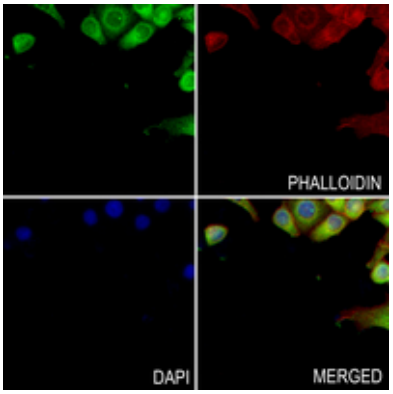
Images



Western blot analysis of RLK expression in HEK293T (A), A549 (B), mouse kidney (C), rat muscle (D) whole cell lysates. (Predicted band size: 61 kD; Observed band size: 85 kD)

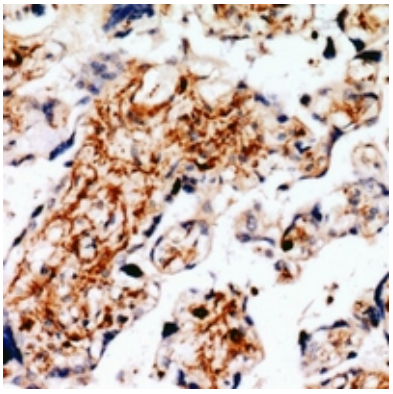


Immunohistochemical analysis of RLK staining in human placenta formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of RLK staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Immunohistochemical analysis of RLK staining in human



placenta formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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