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Phospho-ILK(S343) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3679a

Product Information

Application	DB, E
Primary Accession	Q13418
Other Accession	Q99J82, O55222, Q3SWY2
Reactivity	Human
Predicted	Bovine, Mouse, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13896
Calculated MW	51419

Additional Information

Gene ID	3611
Other Names	Integrin-linked protein kinase, 59 kDa serine/threonine-protein kinase, ILK-1, ILK-2, p59ILK, ILK, ILK1, ILK2
Target/Specificity	This ILK Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S343 of human ILK.
Dilution	DB~~1:500 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	Phospho-ILK(S343) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ILK (HGNC:6040)
Function	Scaffold protein which mediates protein-protein interactions during a range of cellular events including focal adhesion assembly, cell adhesion and cell migration (PubMed:17420447, PubMed:20005845, PubMed:30367047,

	PubMed:32528174). Regulates integrin-mediated signal transduction by contributing to inside-out integrin activation (By similarity). Recruits PARVA and LIMS1/PITCH to form the heterotrimeric IPP (ILK-PINCH-PARVIN) complex which binds to F-actin via the C- terminal tail of LIMS1 and the N-terminal region of PARVA, promoting F- actin filament bundling, a process required to generate force for actin cytoskeleton reorganization and subsequent dynamic cell adhesion events such as cell spreading and migration (PubMed:30367047). Binding to PARVA promotes effective assembly of ILK into focal adhesions while PARVA-bound ILK can simultaneously engage integrin-beta cytoplasmic tails to mediate cell adhesion (PubMed:20005845). Plays a role with PARVG in promoting the cell adhesion and spreading of leukocytes (PubMed:16517730). Acts as an upstream effector of both AKT1/PKB and GSK3 (PubMed:9736715). Mediates trafficking of caveolae to the cell surface in an ITGB1-dependent manner by promoting the recruitment of IQGAP1 to the cell cortex which cooperates with its effector DIAPH1 to locally stabilize microtubules and allow stable insertion of caveolae into the plasma membrane (By similarity). Required for the maintenance of mitotic spindle integrity by promoting phosphorylation of TACC3 by AURKA (PubMed:18283114). Associates with chromatin and may act as a negative regulator of transcription when located in the nucleus (PubMed:17420447).
Cellular Location	Cell junction, focal adhesion. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cell projection, lamellipodium {ECO:0000250|UniProtKB:O55222}. Cytoplasm, myofibril, sarcomere. Cytoplasm Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cell cortex {ECO:0000250|UniProtKB:O55222}
Tissue Location	Highly expressed in heart followed by skeletal muscle, pancreas and kidney. Weakly expressed in placenta, lung and liver

Background

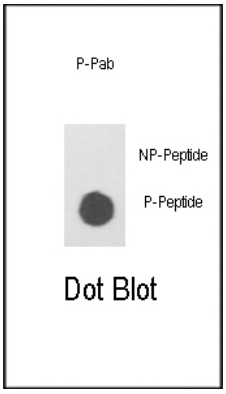
Transduction of extracellular matrix signals through integrins influences intracellular and extracellular functions, and appears to require interaction of integrin cytoplasmic domains with cellular proteins. Integrin-linked kinase (ILK), interacts with the cytoplasmic domain of beta-1 integrin. ILK is a serine/threonine protein kinase with 4 ankyrin-like repeats, which associates with the cytoplasmic domain of beta integrins and acts as a proximal receptor kinase regulating integrin-mediated signal transduction.

References

Li, Y., et al., J. Clin. Invest. 112(4):503-516 (2003). Troussard, A.A., et al., J. Biol. Chem. 278(25):22374-22378 (2003). Marotta, A., et al., Br. J. Cancer 88(11):1755-1762 (2003). Cordes, N., et al., Br. J. Cancer 88(9):1470-1479 (2003). Fukuda, T., et al., J. Cell Biol. 160(7):1001-1008 (2003).

Images

Dot blot analysis of anti-Phospho ILK-S343 Pab (Cat. #AP3679a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.



Citations

- Fibronectin-induced overactivation of alpha(V)beta(3)-PI3K-PIP3-PDK1-ILK signaling drives aortic disease in Marfan syndrome.
- Nanofiber-mediated inhibition of focal adhesion kinase sensitizes glioma stemlike cells to epidermal growth factor receptor inhibition.
- β1-integrin restricts astrocytic differentiation of adult hippocampal neural stem cells.

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