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Anti-Integrin linked ILK Antibody Picoband™ (monoclonal, 3C7E1)

Catalog # ABO16587

Product Information

Application	WB, IHC
Primary Accession	Q13418
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Integrin linked ILK Antibody Picoband™ (monoclonal, 3C7E1) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	3611
Other Names	Integrin-linked protein kinase, 2.7.11.1, 59 kDa serine/threonine-protein kinase, Beta-integrin-linked kinase, ILK-1, ILK-2, p59ILK, ILK (HGNC:6040)
Calculated MW	51419
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human, Mouse
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 3C7E1
Immunogen	E.coli-derived human Integrin linked ILK recombinant protein (Position: M1-K452).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

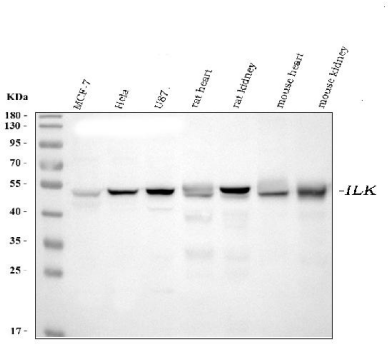
Name	ILK (HGNC:6040)
Function	Scaffold protein which mediates protein-protein interactions during a range of cellular events including focal adhesion assembly, cell adhesion and cell migration (PubMed:17420447, PubMed:20005845, PubMed:30367047, PubMed:32528174). Regulates integrin-mediated signal transduction 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

ILK, also known as Integrin-linked kinase, is a serine-threonine protein kinase. 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. This gene was initially described to encode 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. Multiple alternatively spliced transcript variants encoding the same protein have been found for this gene. Recent results showed that ILK contains 5 ankyrin-like repeats, and that the C-terminal kinase domain is actually a pseudo-kinase with adaptor function.

Images

Figure 1. Western blot analysis of Integrin linked ILK using anti-Integrin linked ILK antibody (M02932-2). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human MCF-7 whole cell lysates,
Lane 2: human Hela whole cell lysates,



Lane 3: human U87 whole cell lysates,
Lane 4: rat heart tissue lysates.
Lane 5: rat kidney tissue lysates.
Lane 6: mouse heart tissue lysates.
Lane 7: mosue kidney tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Integrin linked ILK antigen affinity purified monoclonal antibody (Catalog # M02932-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Integrin linked ILK at approximately 51 kDa. The expected band size for Integrin linked ILK is at 51 kDa.

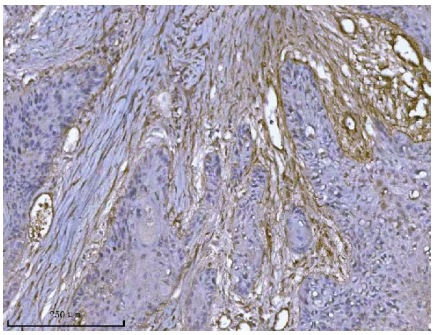


Figure 2. IHC analysis of Integrin linked ILK using anti-Integrin linked ILK antibody (M02932-2).
Integrin linked ILK was detected in a paraffin-embedded section of human squamous cell lung carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Integrin linked ILK Antibody (M02932-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

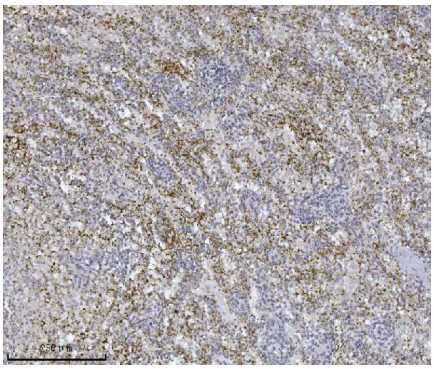
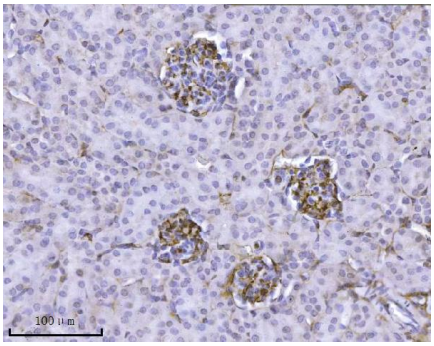


Figure 3. IHC analysis of Integrin linked ILK using anti-Integrin linked ILK antibody (M02932-2).
Integrin linked ILK was detected in a paraffin-embedded section of human spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Integrin linked ILK Antibody (M02932-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

Figure 4. IHC analysis of Integrin linked ILK using anti-Integrin linked ILK antibody (M02932-2).
Integrin linked ILK was detected in a paraffin-embedded section of mouse kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Integrin linked ILK Antibody (M02932-2) overnight at 4°C. Peroxidase Conjugated Goat



Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

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