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ProductInformation

Anti-ILK
Developed in Rabbit, IgG Fraction of Antiserum

Product Number **I 1907**

Product Description

Anti-β1-Integrin-Linked Kinase (ILK) is developed in rabbit using as immunogen a synthetic peptide corresponding to the C-terminus of human ILK (amino acids 435-452), conjugated to KLH. The peptide sequence is identical in mouse, guinea pig and chicken ILK-1 and is highly conserved (single amino acid substitution) in human ILK-2 and in *Drosophila* ILK (>80% homology). The antiserum is purified by ion-exchange chromatography. Anti-ILK specifically recognizes β1-integrin-linked kinase protein (50 kDa). The antibody detects human, mouse, rat and chicken ILK. It has been used in immunoblotting and immuno-fluorescence applications.

Cell adhesion to extracellular matrix (ECM) is an important process that controls cell morphology, proliferation, migration, differentiation and survival. Transduction of extracellular matrix signals through integrins influences intracellular and extracellular functions, and appears to require interaction of integrin cytoplasmic domains with cellular proteins.

In 1996 Hannigan et al. isolated gene that interacts with the cytoplasmic domain of β1-integrin and β3 integrin subunits. The gene, designated integrin-linked kinase (ILK), encodes an ubiquitously expressed 50-59 kDa serine/ threonine protein kinase that has been implicated in integrin, growth factor and Wnt signaling pathways.[1-3] ILK comprises three structurally conserved domains. The C-terminal domain contains a protein kinase catalytic site and a binding site for the integrin β1 subunit. The PH-like domain of ILK binds PtdIns(3,4,5)P3 and participates in the regulation of the kinase activity.[4] The N-terminal domain comprises primarily four ANK repeats responsible for interaction with the LIM-adaptor protein PINCH.[5,6] ILK regulates several integrin-mediated cellular processes including cell adhesion, fibronectin matrix assembly and anchorage-dependent cell progression.[1,7,8] ILK is localized to cell-matrix focal adhesions but not in cell-cell adhesion sites.[9] Upon cell adhesion, ILK is transiently activated.[4] Overexpression of ILK in epithelial cells activates the LEF-1/β-catenin signaling pathways, and inhibits the E-cadherin pathway.[7,10]

Insulin transiently stimulates ILK activity in cells through a PI3-kinase dependent mechanism. ILK directly phosphorylates PKB/Akt and GSK3 and regulates their activities.[4] ILK plays critical roles in regulation of cellular survival and proliferation and may be involved in oncogenic transformation. Overexpression of ILK in rat epithelial cells induces anchorage-independent cell growth in culture and tumors formation *in vivo*.

Reagent

The Anti-ILK is provided as IgG fraction of antiserum in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

Store at 2-8 °C. For extended storage, freeze in working aliquots. Avoid repeated freezing and thawing to prevent denaturing of the antibody. Do not store in a frost-free freezer. The antibody is stable for at least 12 months when stored appropriately.

Product Profile

A recommended working dilution of 1:4,000 is determined by immunoblotting, using a whole cell extract of the human epitheloid carcinoma HeLa cell line and a whole cell extract of chicken fibroblasts. A weak 35 kDa band may be observed in some preparations. A recommended working dilution of 1:100 is determined by immunofluorescence staining, using the rat fibroblast Rat-1 cell line or the mouse fibroblast NIH3T3 cell line.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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