3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Monoclonal Anti-ILK
Clone 65.1
Purified Mouse IgG2b

Product Number **I 0783**

Product Description

Monoclonal Anti-ILK (mouse IgG2b isotype) is derived from the 65.1 hybridoma produced by the fusion of mouse myeloma cells (P3X63-Ag8.653) and splenocytes from BALB/c mice immunized with purified mouse ILK recombinant protein. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-ILK recognizes human, monkey, bovine, dog, rat, mouse, hamster and chicken ILK (approximately 59 kDa). The product is useful in immunoblotting,[1] immunoprecipitation, immunocytochemistry,[1] and immunohistochemistry.[2]

ILK (Integrin-linked protein kinase) was identified in the search for proteins that interact with integrin.[4] The protein is a ubiquitously expressed 50-59 kDa serine/threonine kinase that has three structurally well-conserved domains. A C-terminal domain contains the kinase catalytic site as well as the binding site for integrin β1 cytoplasmic domain. A pleckstrin homology-like (PH) domain binds PtdIns(3,4,5)P3 and is important in the regulation of the kinase activity. A N-terminal domain contains four ankyrin repeats (ANK) that are responsible for its interaction with the LIM-adaptor protein PINCH. PINCH is required for the localization of ILK to cell adhesion sites.[3-4]

The ILK protein is important in different biological pathways such as cell adhesion, anchorage-dependent cell cycle progression, oncogenic transformation, and growth factor signaling. The kinase activity of ILK is low in non-activated cells; its activity is stimulated by cell-ECM interactions and by certain growth factors.[3] Negative regulation of ILK is mediated by two phosphatases: PTEN, a tumor suppressor lipid phosphatase, and ILKAP, a PP2C protein phosphatase. In tumor cells that do not express PTEN protein, ILK is constitutively active.[3]

Several proteins serve as substrates for ILK kinase, among them PKB/Akt on Ser^{473}, glycogen synthase kinase 3 (GSK-3) on Ser^{9}, myosin light chain (MLC) on Ser^{18}/Thr^{19} and ILK-binding protein affixin.[3]

Monoclonal antibodies specific for ILK are important tools for the study of ILK and its role in different biological pathways.

Reagents

Monoclonal Anti-ILK is supplied at approximately 2 mg/ml as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative

Precautions and Disclaimer

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

Storage/Stability

For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A working concentration of 0.5-2 µg/ml is determined by immunoblotting, using a whole cell extract of Chinese hamster ovary cell line (CHO cells).

In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

1. Li, F., et al., J. Cell Sci., **112**, 4589-4599 (1999).
2. Guo, L., et al., Am. J. Pathol., **159**, 1735-1742 (2001).
3. Wu, C., et al., J. Cell Biol., 155, 505-510 (2001).
4. Hannigan, G.E., et al., Nature, 379, 91-96 (1996).

EK/AH/JK 6/03