New Product Highlight

Anti-ILK (β1-Integrin-Linked Kinase): Marker for integrin-mediated processes

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

The gene that interacts with the cytoplasmic domain of β1-integrin and β3-integrin subunits is a ubiquitously expressed 50-59 kDa serine/threonine protein kinase designated integrin-linked kinase (ILK). ILK has been implicated in integrin, growth factor and Wnt signaling pathways [1-3]. This kinase regulates several integrin-mediated cellular processes including cell adhesion, fibronectin matrix assembly and anchorage-dependent cell progression [1,4,5]. ILK is localized to cell-matrix focal adhesions, but not in cell-cell adhesion sites [6]. Upon cell adhesion, ILK is transiently activated [7]. Overexpression of ILK in epithelial cells activates the LEF-1/β-catenin signaling pathways and inhibits the E-cadherin pathway [4,8].

Insulin transiently stimulates ILK activity in cells through a phosphatidylinositol 3-kinase (PI3-kinase)-dependent mechanism. ILK directly phosphorylates PKB/Akt and glycogen synthase kinase-3 (GSK3) and regulates their activities [4]. In addition, ILK plays critical roles in the regulation of cellular survival and proliferation and may be involved in oncogenic transformation.

Anti-ILK (Prod. No. **I 1907**) is produced using a peptide corresponding to amino acids 435-452 at the C-terminus of human ILK. 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). Anti-ILK specifically recognizes human, mouse, rat and chicken ILK (50 kDa). This antibody is suitable for immunoblotting and immunofluorescence.

References

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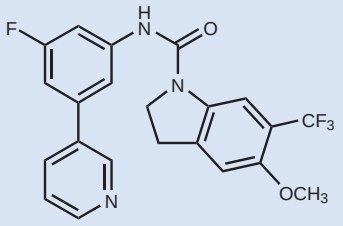
SB-228357: Potent, selective 5-HT$_{2C/2B}$ serotonin receptor antagonist

Sigma-RBI has recently introduced **SB-228357** (Prod. No. **S 2318**) a potent, selective 5-HT$_{2C/2B}$ serotonin receptor antagonist. In radioligand binding studies performed using recombinantly-expressed human serotonin receptors, SB-228357 exhibited high affinity for the 5-HT$_{2C}$ serotonin receptor, possessing 100- and 10-fold selectivity over 5-HT$_{2A}$ and 5-HT$_{2B}$ serotonin receptors, respectively [1]. In addition, SB-228357 exhibited excellent oral activity in animal models and a reduced liability to inhibit P450 liver enzymes [1].

'Atypical' neuroleptics, such as **clozapine** (Prod. No. **C 6305**), olanzapine and **risperidone** (Prod. No. **R-118**) are less likely to cause extrapyramidal side-effects (EPS) than conventional neuroleptics, such as **haloperidol** (Prod. No. **H 1512**) when used for the treatment of schizophrenia [2]. Interestingly, while these drugs possess antagonist activity at D$_2$ dopamine receptors, they are also potent 5-HT$_2$ serotonin receptor antagonists. It is the latter aspect that researchers believe may be responsible for their atypical profile. In an effort to evaluate the role of serotonin receptors, researchers tested several 5-HT$_2$ serotonin receptor antagonists in a rat model of haloperidol-induced catalepsy [3]. SB-228357 significantly reduced catalepsy while MDL-100907 and **SB-215505** (Prod. No. **S 1068**), 5-HT$_{2A}$ and 5-HT$_{2B}$ serotonin receptor antagonists, respectively, had no effect. These results not only indicate that blockade of the 5-HT$_{2C}$ serotonin receptor may contribute to the atypical profile of SB-228357, but also demonstrates the value of asb-228357 as a research tool in animal models in schizophrenia.



SB-228357
(Prod. No. S 2318)

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