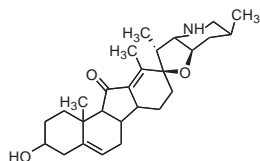


Jervine: Sonic hedgehog (Shh) signaling pathway inhibitor; cyclopamine analog

Prod. Code **J 4145**



Cell-permeable steroidal alkaloid with teratogenic effects; induces cyclopia by blocking Shh signaling (IC₅₀ ~500–700 nM in s12 cells).

References

- Williams, J.A., et al., Identification of a small molecule inhibitor of the hedgehog signaling pathway: effects on basal cell carcinoma-like lesions. *Proc. Natl. Acad. Sci. USA*, **100**, 4616-4621 (2003).
- Mistretta, C.M., et al., Cyclopamine and jervine in embryonic rat tongue cultures demonstrate a role for Shh signaling in taste papilla development and patterning: fungiform papillae double in number and form in novel locations in dorsal lingual epithelium. *Dev. Biol.*, **254**, 1-18 (2003).

Hedgehog-interacting Protein (Hip), mouse, recombinant, expressed in NSO cells

Prod. Code **H 5163**

Transcriptional target in hedgehog signaling; novel regulatory protein that binds with all three mammalian hedgehogs (Shh, Dhh, and Ihh). The biological activity is measured by its ability to inhibit Sonic hedgehog (Shh) induction of alkaline phosphatase production in C3H10T1/2 fibroblasts.

References

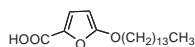
- Chuang, P.T. and McMahon, A.P., Vertebrate hedgehog signaling modulated by induction of a hedgehog-binding protein. *Nature*, **397**, 617-621 (1999).
- Ingham, P.W. and McMahon, A.P., et al., Hedgehog signaling in animal development: paradigms and principles. *Genes Dev.*, **15**, 3059-3087 (2001).

Related Products

Product Name	Description	Prod. Code
Cyclopamine	Hedgehog signaling pathway inhibitor	C 4116
Sonic Hedgehog Peptide, mouse, recombinant		S 0191

TOFA: Potent, reversible, cell-permeable and competitive acetyl-CoA carboxylase (ACC) inhibitor

Prod. Code **T 6575**



Acetyl-CoA carboxylase (ACC) is a key enzyme involved in fatty acid biosynthesis. TOFA has been shown to

dose-dependently inhibit fatty acid synthesis in human breast cancer cell line MCF7 displaying an IC₅₀ value of 4 μM.

References

- Landree, L.E., et al., C75, a fatty acid synthase inhibitor, modulates AMP-activated protein kinase to alter neuronal energy metabolism. *J. Biol. Chem.*, **279**, 3817-3827 (2004).
- Thupari, J.N., et al., Fatty acid synthase inhibition in human breast cancer cells leads to malonyl-CoA-induced inhibition of fatty acid oxidation and cytotoxicity. *Biochem. Biophys. Res. Commun.*, **285**, 217-223 (2001).

Monoclonal Anti-Sonic Hedgehog (Shh), N-Terminal

Prod. Code: **S 4944**

Clone Name: 171018

Product Form: Purified rat immunoglobulin

Immunogen: Purified, *E. coli*-derived, recombinant mouse Sonic hedgehog (Shh) N-terminal peptide (amino acids 25-198)

Isotype: rat IgG2a

Species Cross Reactivity: Human and mouse Shh

Sonic hedgehog (Shh) is an important cell signaling molecule expressed during embryonic development. Shh is involved in the patterning of the developing embryonic nervous system, somite and limb. The N-terminal peptide of Shh is released by auto-proteolysis and functions through interactions with a multi-component receptor complex containing the transmembrane proteins, Patched and Smoothened. Shh protein is expressed in key embryonic tissues such as the Hensen's node, zone of polarizing activity in the posterior limb bud, notochord, and floor plate of the neural tube.

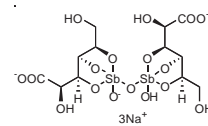
Applications: Immunoblotting, immunohistochemistry, neutralization, and ELISA (capture)

References

- Echelard, Y., et al., Sonic hedgehog, a member of a family of putative signaling molecules, is implicated in the regulation of CNS polarity. *Cell*, **75**, 1417-1430 (1993).
- Weed, M., et al., The role of sonic hedgehog in vertebrate development. *Matrix Biol.*, **16**, 53-58 (1997).
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Sodium stibogluconate: Irreversible protein tyrosine phosphatase (PTP) inhibitor

Prod. Code **S 5319**



Inhibits *in vitro* PTPases Src homology PTPase1 (SHP-1; 10 μg/ml), SHP-2 (100 μg/ml), and PTP1B (100 μg/ml), but not mitogen-activated protein kinase phosphatase-1 (MKP1), a dual-specificity phosphatase. Inhibition of activity was determined by measuring dephosphorylation of a synthetic phosphotyrosine peptide by the GST/phosphatase fusion protein [1]. Routinely used for the treatment of Leishmaniasis in humans, a parasitic disease spread by the bite of sand flies infected with the protozoa *Leishmania donovani* [2].

References

- Pathak, M.K. and Yi, T., Sodium stibogluconate is a potent inhibitor of protein tyrosine phosphatases and augments cytokine responses in hemopoietic cell lines. *J. Immunol.*, **167**, 3391-3397 (2001).
- Wyllie, S., et al., Dual action of antimonial drugs on thiol redox metabolism in the human pathogen *Leishmania donovani*. *J. Biol. Chem.*, **279**, 39925-39932 (2004).

Related Products

Product Name	Descriptor	Prod. Code
Dephostatatin	CD45-associated tyrosine phosphatase inhibitor	D 8065
NCS 95397	Cdc2 phosphatase inhibitor	N 1786
Sodium orthovanadate	Tyrosine phosphatase inhibitor	S 6508