Hedgehog

Hedgehog (Hh) is composed of N-terminal and C-terminal domains that dissociate in a self-catalyzed proteolytic cleavage reaction. The N-terminal product HhNp, modified by cholesterol during self-cleavage, harbors all known Hh signaling activities. When synthesized in the absence of the C-terminal domain (and hence lacking cholesterol modification), the N-terminal domain is aberrantly targeted and released selectively into the retina.

Hedgehog signaling pathway is linked to tumorigenesis and is aberrantly activated in a variety of cancers. Hh ligands bind to and suppress the transmembrane receptor Patched (PTCH), which suppresses Smoothened (SMO), a seven-transmembrane-helix protein that positively regulates the Hh pathway.

Sonic hedgehog (Shh) is a morphogen essential to the developing nervous system that continues to play an important role in adult life by contributing to cell proliferation and differentiation, maintaining blood-brain barrier integrity, and being cytoprotective against oxidative and excitotoxic stress, all features of importance in amyotrophic lateral sclerosis (ALS).

Indian hedgehog (Ihh), a signaling molecule that plays a pivotal role in the regulation of chondrocyte proliferation, maturation, and ossification both in long-bone development and digit joint formation, has also been found to be essential for temporomandibular joint (TMJ) development.

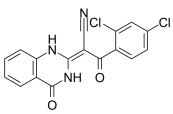
Desert hedgehog (Dhh), one of the Hedgehog family members, is expressed by Schwann cells of peripheral nerves.

Hedgehog Inhibitors, Agonists, Antagonists & Activators

Ciliobrevin A
(HPI-4)

Cat. No.: HY-100790

Ciliobrevin A (HPI-4) is a **hedgehog** (**Hh**) signaling pathway inhibitor with median inhibitory concentration (IC_{50}) less than 10 μM.

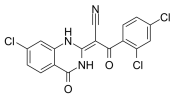


Purity: 98.72%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Ciliobrevin D

Cat. No.: HY-122632

Ciliobrevin D is a cell-permeable, reversible and specific inhibitor of AAA+ ATPase motor **cytoplasmic dynein**. Ciliobrevin D inhibits **Hedgehog (Hh)** signaling and primary cilia formation. Ciliobrevin D inhibits **dynein**-dependent microtubule gliding and ATPase activity in vitro.

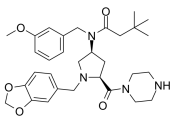


Purity: 98.94%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

CUR61414

Cat. No.: HY-113965

CUR61414 is a novel, potent and cell permeable **Hedgehog signaling pathway inhibitor** (IC_{50} =100-200 nM). CUR61414 is a small-molecule aminoproline class compound and selectively binds to **smoothened (Smo)** with a K_i value of 44 nM.

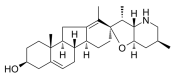


Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 10 mg

Cyclopamine
(11-Deoxojervine)

Cat. No.: HY-17024

Cyclopamine is a **Hedgehog** (**Hh**) pathway antagonist with an IC_{50} of 46 nM in the Hh cell assay. Cyclopamine is also a selective **Smo** inhibitor.

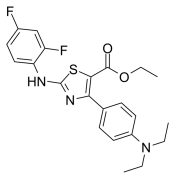


Purity: 99.97%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

Dynarrestin

Cat. No.: HY-121802

Dynarrestin is a aminothiazole inhibitor of **cytoplasmic dyneins 1 and 2**.

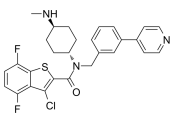


Purity: 98.40%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg

Hh-Ag1.5
(SAg1.5)

Cat. No.: HY-124899

Hh-Ag1.5 (SAg1.5) is a potent **Hedgehog** (**Hh**) agonist with an EC_{50} of 1 nM. Hh-Ag1.5 mediated reprogramming breaks the quiescence of noninjured liver stem cells for rescuing liver failure.

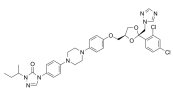


Purity: 99.97%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Itraconazole
(R51211)

Cat. No.: HY-17514

Itraconazole (R51211) is a triazole antifungal agent and a potent and orally active **Hedgehog (Hh) signaling pathway** antagonist with an IC_{50} of ~800 nM.

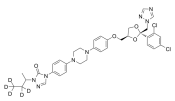


Purity: 99.15%
Clinical Data: Launched
Size: 100 mg, 500 mg

Itraconazole-d5

Cat. No.: HY-17514S

Itraconazole-d5 (R51211-d5) is the deuterium labeled Itraconazole. Itraconazole (R51211) is a triazole antifungal agent and a potent and orally active **Hedgehog (Hh) signaling pathway** antagonist with an IC_{50} of ~800 nM.

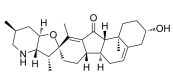


Purity: >98%
Clinical Data: No Development Reported
Size: 500 μg, 1 mg

Jervine
(11-Ketocyclopamine)

Cat. No.: HY-N0836

Jervine (11-Ketocyclopamine) is a potent **Hedgehog (Hh)** inhibitor with an IC_{50} of 500-700 nM. Jervine is a natural teratogenic sterodial alkaloid from rhizomes of Veratrum album. Jervine has anti-inflammatory and antioxidant properties.

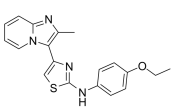


Purity: 99.03%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

JK184

Cat. No.: HY-13307

JK184 is a potent **Hedgehog (Hh)** pathway inhibitor with IC_{50} of 30 nM in mammalian cells.



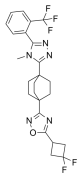
Purity: 99.37%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Tel: 609-228-6898 Fax: 609-228-5909 Email: sales@MedChemExpress.com

MK-4101

Cat. No.: HY-100036

MK-4101 is a **Smoothened (SMO)** antagonist (IC_{50} of 1.1 μM for 293 cells) and also a potent inhibitor of the **hedgehog pathway** (IC_{50} of 1.5 μM for mouse cells; IC_{50} of 1 μM for KYSE180 oesophageal cancer cells).

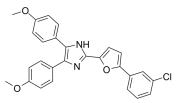


Purity: 98.31%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Neurodazine

Cat. No.: HY-108439

Neurodazine is an imidazole-based small molecule, serve as a promoter of **neurogenesisin pluripotent cells**. Neurodazine promotes neurogenesis by activating **Wnt** and **Shh** signaling pathways. Neurodazine selectively suppresses astrocyte differentiation of P19 cells.

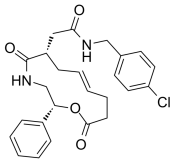


Purity: 98.21%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

Robotnikinin

Cat. No.: HY-100515

Robotnikinin is a small molecule capable of binding to and inhibiting the activity of **Sonic Hedgehog (Shh)** signaling up stream of Smo.

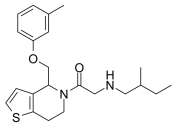


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RU-SKI 43

Cat. No.: HY-18366

RU-SKI 43 is a potent and selective **Hedgehog acyltransferase (Hhat)** inhibitor with an IC_{50} of 850 nM. RU-SKI 43 reduces Gli-1 activation through Smoothened-independent non-canonical signaling and decreases Akt and mTOR pathway activity. RU-SKI 43 has anti-cancer activity.

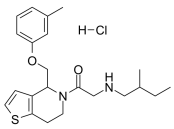


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RU-SKI 43 hydrochloride

Cat. No.: HY-18366A

RU-SKI 43 hydrochloride is a potent and selective **Hedgehog acyltransferase (Hhat)** inhibitor with an IC_{50} of 850 nM. RU-SKI 43 hydrochloride reduces Gli-1 activation through Smoothened-independent non-canonical signaling and decreases Akt and mTOR pathway activity.

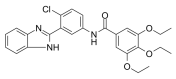


Purity: 98.54%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

SANT 2

Cat. No.: HY-107408

SANT 2 is a potent antagonist of Hh-signaling pathway. Hedgehog (Hh) signaling plays an important role in cell signaling of embryonic development and adult tissue homeostasis.

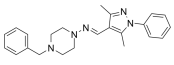


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

SANT-1

Cat. No.: HY-100224

SANT-1, a potent **Smo** antagonist, inhibits **Hedgehog** signaling. SANT-1 shows IC_{50}s of 20 nM and 30 nM in Shh-LIGHT2 and SmoA1-LIGHT2 assay, respectively.



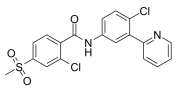
Purity: 99.88%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Vismodegib

(GDC-0449)

Cat. No.: HY-10440

Vismodegib (GDC-0449) is an orally active **hedgehog** pathway inhibitor with an IC_{50} of 3 nM. Vismodegib also inhibits **P-gp**, **ABCG2** with IC_{50} values of 3.0 μM and 1.4 μM, respectively.



Purity: 99.97%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 200 mg