TGF-beta/Smad

Transforming growth factor beta

Transforming growth factor-beta (TGF-beta) is a multifunctional cytokine that regulates proliferation, migration, differentiation, and survival of many different cell types. Deletion or mutation of different members of the TGF-β family have been shown to cause vascular remodeling defect and absence of mural cell formation, leading to embryonic lethality or severe vascular disorders. TGF-β induces smooth muscle differentiation via Notch or SMAD2 and SMAD3 signaling in ES cells or in a neural crest stem cell line. TGF-β binds to TGF-βRI and to induce phosphorylation of SMAD2/3, thereby inhibiting proliferation, tube formation, and migration of endothelial cells (ECs).

TGF-β is a pluripotent cytokine with dual tumour-suppressive and tumour-promoting effects. TGF-β induces the epithelial-to-mesenchymal transition (EMT) leading to increased cell plasticity at the onset of cancer cell invasion and metastasis.
TGF-beta/Smad Inhibitors, Agonists, Activators & Modulators

Asiaticoside
(Madecassol)
Cat. No.: HY-N0439
Asiaticoside, a trisaccaride triterpene from Centella asiatica, suppresses TGF-β/Smad signaling through inducing Smad7 and inhibiting TGF-βRI and TGF-βRII in keloid fibroblasts; Asiaticoside shows antioxidant, anti-inflammatory, and anti-ulcer properties.
Purity: 98.46%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Chebulinic acid
Cat. No.: HY-N2033
Chebulinic acid is a potent natural inhibitor of M. tuberculosis DNA gyrase, also can inhibit SMAD-3 phosphorylation, inhibit H+ K+-ATPase activity.
Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Disitertide
(P144)
Cat. No.: HY-P0118
Disitertide is an inhibitor of TGF-β1.

EMT inhibitor-1
Cat. No.: HY-101275
EMT inhibitor-1 is an inhibitor of of Hippo, TGF-β, and Wnt signaling pathways with antitumor activities.
Purity: 98.71%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

Halofuginone
(RU-19110)
Cat. No.: HY-N1584
Halofuginone (RU-19110) is a less-toxic form of Febrifugine, which is isolated from the plant Dichroa febrifuga. Halofuginone inhibits prolyl-tRNA synthetase in an ATP-dependent manner with a Ki of 18.3 nM. Halofuginone attenuates osteoarthritis (OA) by inhibition of TGF-β activity.
Purity: 98.32%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Halofuginone hydrobromide
(RU-19110 (hydrobromide))
Cat. No.: HY-N1584A
Halofuginone hydrobromide (RU-19110 hydrobromide) is a less-toxic form of Febrifugine, which is isolated from the plant Dichroa febrifuga. Halofuginone inhibits prolyl-tRNA synthetase in an ATP-dependent manner with a Ki of 18.3 nM.
Purity: 99.94%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

Hydrochlorothiazide
(HCTZ)
Cat. No.: HY-B0252
Hydrochlorothiazide is a diuretic drug of the thiazide class.
Purity: 99.20%
Clinical Data: Launched
Size: 5 g, 10 g

Kartogenin
(KGN)
Cat. No.: HY-16268
Kartogenin is an inducer of differentiation of human mesenchymal stem cells into chondrocytes.
Purity: 98.34%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Oxymatrine
Cat. No.: HY-N0158
Oxymatrine, an alkaloid from the roots of Sophora species, with anti-inflammatory, antifibrosis, and antitumor effects, inhibits the INOS expression and TGF-β/Smad pathway.
Purity: > 98.0%
Clinical Data: Phase 4
Size: 10 mM × 1 mL, 100 mg, 200 mg, 500 mg, 1 g

Pirfenidone
(AMR69)
Cat. No.: HY-B0673
Pirfenidone is a drug used for the treatment of idiopathic pulmonary fibrosis. It inhibits FGFR, EGFR, PDGFR, TGF-β, thereby slowing tumor cell proliferation.
Purity: 99.98%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg, 1 g, 5 g

Tel: 609-228-6898 Fax: 609-228-5909 Email: sales@MedChemExpress.com
### SIS3

**Cat. No.: HY-13013**

SIS3 is a cell-permeable and selective inhibitor of Smad3. It inhibits Smad3 phosphorylation with an IC$_{50}$ of 3 µM.

**Purity:** >98.0%

**Clinical Data:** No Development Reported

**Size:** 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 25 mg

---

### SRI-011381 hydrochloride

**Cat. No.: HY-100347A**

SRI-011381 hydrochloride is an oral bioavailable TGF-beta signaling agonist, exhibits neuroprotective effect.

**Purity:** 99.78%

**Clinical Data:** No Development Reported

**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

---

www.MedChemExpress.com