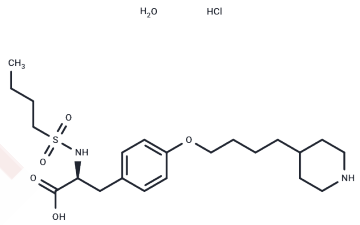
Data Sheet (Cat.No.T2537)

TargetMol

Tirofiban hydrochloride monohydrate

Chemical Properties



CAS No. : 150915-40-5

Formula: C22H39ClN2O6S

Molecular Weight: 495.07

Appearance: no data available

Storage: keep away from direct sunlight,store under nitrogen
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Tirofiban(MK383) hydrochloride monohydrate is a non-peptide glycoprotein IIb/IIIa antagonist.
Targets(IC50)	ATPase,Integrin
In vitro	**METHODS**: HUVEC cells were cultured in 24-well plates. The effect of 0.12, 0.25, 1, and 3 μg/ml Tirofiban（MK383） hydrochloride monohydrate on cell growth was determined using cell counting method. Cells were harvested after 72 h and counted using trypan blue. **RESULTS** At a concentration of 0.25 μg/ml, the number of cells in the Tirofiban group increased compared with the group without Tirofiban. Tirofiban can induce the growth of HUVEC cells. [1] **METHODS**:HUVEC cells were treated with Tirofiban (1mg/mL) at different time points (0, 1, 2, 3, 4 and 5 hours). **RESULTS** After Tirofiban treatment, the amount of VEGF produced by HUVECs gradually increased and reached a peak at 2 hours. [2]
In vivo	**METHODS**: Rats were intravenously injected with Tirofiban（MK383） hydrochloride monohydrate (200 μg/kg). Fifteen minutes later, the left renal pedicle was occluded with a small microvascular forceps, and renal ischemia was induced for 45 minutes. Blood was collected 24 hours after reperfusion, and the left kidney was taken for analysis. **RESULTS** Tirofiban can reduce SCR and BUN levels in I/R-injured kidneys, improve renal tissue pathological changes, and reduce ROS generation, cell apoptosis, and leukocyte infiltration. [3] **METHODS**: 60 μg/kg Tirofiban was administered as an intravenous bolus injection through the tail vein of rats 30 minutes before reperfusion, and the cardiac function of the rats was observed. **RESULTS** Tirofiban improved cardiac function, with lower left ventricular end-systolic blood pressure levels, left ventricular pressure maximum change rates of increase and decrease, heart rate, and left ventricular end-diastolic pressure levels. [4]

Solubility Information

Solubility	DMSO: 50 mg/mL (101 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0199 mL	10.0996 mL	20.1992 mL
5 mM	0.404 mL	2.0199 mL	4.0398 mL
10 mM	0.202 mL	1.010 mL	2.0199 mL
50 mM	0.0404 mL	0.202 mL	0.404 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Giordano A,et al. Tirofiban induces VEGF production and stimulates migration and proliferation of endothelial cells. Vascul Pharmacol. 2014 May-Jun;61(2-3):63-71.

Gao HQ,et al. Tirofiban Promotes the Proliferation of Human Umbilical Vein Endothelial Cells In Vitro Via Enhanced Vascular Endothelial Growth Factor Expression. Transplant Proc. 2020 Jan-Feb;52(1):419-422.

Guan W, et al. Protective effects of tirofiban on ischemia/reperfusion-induced renal injury in vivo and in vitro. Eur J Pharmacol. 2015 Aug 15;761:144-52.

Liu X, et al. Effects of tirofiban on the reperfusion-related no-reflow in rats with acute myocardial infarction. J Geriatr Cardiol. 2013 Mar;10(1):52-8.