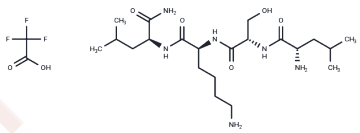
Data Sheet (Cat.No.TP2147)

TargetMol

LSKL TFA

Chemical Properties



CAS No. : 2828433-17-4

Formula: C23H43F3N6O7

Molecular Weight: 572.62

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	LSKL TFA (H-Leu-Ser-Lys-Leu-NH2 TFA) is a LAP-TGFβ derivative and a TGF-β1 antagonist that can cross the blood-brain barrier, inhibits the binding of TSP-1 to LAP and reduces renal interstitial fibrosis and liver fibrosis, inhibits subarachnoid fibrosis by inhibiting TSP-1-mediated TGF-β1 activity, prevents the occurrence of chronic hydrocephalus and improves long-term neurocognitive deficits after subarachnoid hemorrhage.
Targets(IC50)	TGF-beta/Smad
In vitro	LSKL TFA from the latent form of TGF-β is responsible for the interaction with the KTFR sequence from ADAMTS1, leading to TGF-β activation. There is a stable binding mode between LSKL, Inhibitor of Thrombospondin (TSP-1) and ADAMTS1 KTFR sequence, characterized by 3 salt bridges and 2 hydrogen bonds. [3]
In vivo	Intraperitoneal injection of 1 mg/kg LSKL TFA, into male rats exerted a protective effect against subarachnoid fibrosis, attenuated ventricular enlargement, and effectively inhibited the development of hydrocephalus. [1] Intraperitoneal injection of 30 mg/kg LSKL TFA, was able to successfully inhibit the Smad signaling pathway activated by transforming growth factor-β (TGF-β) after partial hepatectomy. LSKL effectively attenuated the activation of TGF-β-Smad signaling by antagonizing TSP-1 rather than reducing TSP-1 protein expression. [2]

Solubility Information

Solubility	DMSO: 200 mg/mL (349.27 mM),Sonication is recommended. H2O: 80 mg/mL (139.71 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (8.73 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7464 mL	8.7318 mL	17.4636 mL
5 mM	0.3493 mL	1.7464 mL	3.4927 mL
10 mM	0.1746 mL	0.8732 mL	1.7464 mL
50 mM	0.0349 mL	0.1746 mL	0.3493 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Liao F, et al. LSKL peptide alleviates subarachnoid fibrosis and hydrocephalus by inhibiting TSP1-mediated TGF-β1 signaling activity following subarachnoid hemorrhage in rats. Exp Ther Med. 2016 Oct;12(4):2537-2543.
Kuroki H, et al. Effect of LSKL peptide on thrombospondin 1-mediated transforming growth factor β signal activation and liver regeneration after hepatectomy in an experimental model. Br J Surg. 2015 Jun;102(7):813-25.
Liao F, et al. LSKL peptide alleviates subarachnoid fibrosis and hydrocephalus by inhibiting TSP1-mediated TGF-β1 signaling activity following subarachnoid hemorrhage in rats. Exp Ther Med. 2016 Oct;12(4):2537-2543.