Data Sheet

Product Name:	D-JNKI-1
Cat. No.:	CS-5324
CAS No.:	1445179-97-4
Molecular Formula:	C164H286N66O40
Molecular Weight:	3822.44
Target:	JNK
Pathway:	MAPK/ERK Pathway
Solubility:	H2O : ≥ 50 mg/mL (13.08 mM)

DQSRPVQPFLNLTTPRKPRPPRRRQRRKKRG-NH_2

BIOLOGICAL ACTIVITY:

D-JNKI-1 is a highly potent and cell-permeable peptide inhibitor of **JNK**. **In Vitro:** D-JNKI-1 (1 μM-1 mM) treatment prevents apoptosis and loss of neomycin-exposed hair cells[1]. **In Vivo:** D-JNKI-1 (10 μM) prevents nearly all hair cell death and permanent hearing loss induced by neomycin ototoxicity in the scala tympani of the guinea pig cochlea. Local delivery of D-JNKI-1 also prevents acoustic trauma-induced permanent hearing loss in a dose-dependent manner[1]. D-JNKI-1 (0.3 mg/kg, i.p.) reverses these pathological events in the brain mitochondria of the rat and almost completely abolishes cytochrome c release and PARP cleavage[2]. D-JNKI-1 (1 μg/kg, s.c.) results in a significant decrease in the disease activity index, and reduces the expression of $CD4^+$ and $CD8^+$ cells in mice[3].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: D-JNKI-1 is dissolved in a 0.9% sodium chloride solution.[3]D-JNKI-1 is dissolved in a 0.9% sodium chloride solution for subcutaneous application. Each group (the 1.0% DSS group and the 1.5% DSS group) is randomly subdivided into an intervention group (n = 15) and a control group (n = 15). The mice in the intervention group receive three subcutaneous nuchal administrations of 1 μg/kg D-JNKI-1 on days 2, 12, and 22. The mice in the control group receive physiological saline subcutaneously as a negative control at the same time points in a comparable stress situation.

References:

[1]. Wang J, et al. A peptide inhibitor of c-Jun N-terminal kinase protects against both aminoglycoside and acoustic trauma-induced auditory hair cell death and hearing loss. J Neurosci. 2003 Sep 17;23(24):8596-607.

[2]. Zhao Y, et al. The JNK inhibitor D-JNKI-1 blocks apoptotic JNK signaling in brain mitochondria. Mol Cell Neurosci. 2012 Mar;49(3):300-10.

[3]. Kersting S, et al. The impact of JNK inhibitor D-JNKI-1 in a murine model of chronic colitis induced by dextran sulfate sodium. J Inflamm Res. 2013 May 3;6:71-81.

[4]. Wang C, et al. Wu-tou decoction attenuates neuropathic pain via suppressing spinal astrocytic IL-1R1/TRAF6/JNK signaling. Oncotarget. 2017 Oct 6;8(54):92864-92879.

CAIndexNames:

DQSRPVQPFLNLTTPRKPRPPRRRQRRKKRG

SMILES:

[DQSRPVQPFLNLTTPRKPRPPRRRQRRKKRG-NH2]

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA