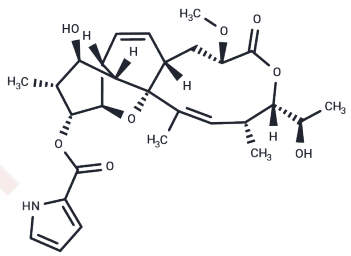
Data Sheet (Cat.No.T36417)

TargetMol

Nargenicin

Chemical Properties



CAS No. : 70695-02-2

Formula: C28H37NO8

Molecular Weight: 515.6

Storage: 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	Nargenicin is a macrolide antibiotic that selectively inhibits the growth of S. aureus, methicilin resistant S. aureus (MRSA), and M. luteus (MICs = 0.6, 0.3, and 2.5 μg/ml, respectively) over a panel of 11 Gram-positive and Gram-negative bacteria (MICs = >80 μg/ml). [1] It dose-dependently inhibits S. aureus DnaE in the presence of DNase I-activated DNA and E. coli DnaE when used at concentrations of 0.00001-0.1 and 0.01-100 μg/mL, respectively. [2] In murine BV-2 microglial cells, nargenicin (1 μM) inhibits cytokine expression and nitric oxide production induced by LPS.[3] Nargenicin (200 μM), when used in combination with 1,25-dihydroxyvitamin D3 or all-trans retinoic acid , reduces cell proliferation by 37-47% and increases cell differentiation by 82-85% in HL-60 human myeloid leukemia cells.[4]
Targets(IC50)	Apoptosis,Others,NF-κB,Antibacterial,Antibiotic
In vivo	In vivo, nargenicin (50 mg/kg, p.o.) reduces the number of colony-forming units (CFUs) in infected kidneys by 100,000-fold in a murine model of S. aureus infection.[2]

Solubility Information

Solubility	Methanol: Soluble DMF: Soluble Ethanol: Soluble DMSO: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9395 mL	9.6974 mL	19.3949 mL
5 mM	0.3879 mL	1.9395 mL	3.879 mL
10 mM	0.1939 mL	0.9697 mL	1.9395 mL
50 mM	0.0388 mL	0.1939 mL	0.3879 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

Sohng, J.K., Yamaguchi, T., Seong, C.N., et al. Production, isolation and biological activity of nargenicin from Nocardia sp. CS682. Arch. Pharm. Res. 31(10), 1339-1345 (2008).
Painter, R.E., Adam, G.C., Arocho, M., et al. Elucidation of DnaE as the antibacterial target of the natural product, nargenicin. Chem. Biol. 22(10), 1362-1373 (2015).
Yoo, J.C., Cho, H.S., Park, E., et al. Nargenicin attenuates lipopolysaccharide-induced inflammatory responses in BV-2 cells. Neuroreport 20(11), 1007-1012 (2009).
Kim, S.H., Yoo, J.C., and Kim, T.S. Nargenicin enhances 1,25-dihydroxyvitamin D3- and all-trans retinoic acid-induced leukemia cell differentiation via PKCβI/MAPK pathways. Biochem. Pharmacol. 77(11), 1694-1701 (2009).