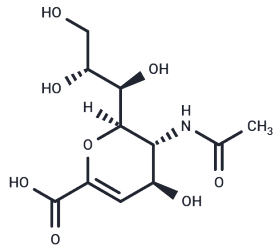
Data Sheet (Cat.No.T38224)

TargetMol

2,3-Dehydro-2-Deoxy-N-Acetylneuraminic Acid

Chemical Properties



CAS No. : 24967-27-9

Formula: C11H17NO8

Molecular Weight: 291.26

Storage: Store at low temperature,Keep away from direct sunlight
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	2,3-Dehydro-2-Deoxy-N-Acetylneuraminic Acid is a pan-sialidase (neuraminidase, NEU) inhibitor with inhibitory activity against sialidases 1-4, with an IC50 of 43-143 μM, and also exhibits inhibitory activity against various influenza viruses.
Targets(IC50)	Influenza Virus
In vitro	**Methods**: To evaluate the effect on sialidase activity in pancreatic β-cells, INS-1D cells were used, and in vitro enzymatic activity was measured using the substrate 4MU-Neu5Ac (2,3-Dehydro-2-Deoxy-N-Acetylneuraminic Acid). **Results**: N-acetyl-2,3-dehydro-2-deoxyneuraminic acid (DANA / Neu5Ac2en) significantly inhibited sialidase activity in INS-1D cells at concentrations ranging from 10 to 100 μM in a dose-dependent manner [1].
In vivo	**Methods**: A mouse model of pulmonary fibrosis was established using bleomycin. Starting on day 10 after bleomycin administration, mice were intraperitoneally injected with 2,3-Dehydro-2-Deoxy-N-Acetylneuraminic Acid (DANA) at a dose of 10 mg/kg daily. Treatment continued until day 21, at which point the animals were euthanized for tissue analysis. **Results**: Inhibition of sialidase activity starting on day 10 after bleomycin administration significantly attenuated pulmonary fibrosis, suggesting that DANA exerts anti-fibrotic effects.[1]

Solubility Information

Solubility	DMF: < 1 mg/ml (insoluble),Sonication is recommended. DMSO: 1 mg/mL (3.43 mM),Sonication is recommended. PBS (pH 7.2): 10 mg/mL (34.33 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4334 mL	17.1668 mL	34.3336 mL
5 mM	0.6867 mL	3.4334 mL	6.8667 mL
10 mM	0.3433 mL	1.7167 mL	3.4334 mL
50 mM	0.0687 mL	0.3433 mL	0.6867 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

Minami A, et al. The sialidase inhibitor 2,3-Dehydro-2-Deoxy-N-Acetylneuraminic Acid is a glucose-dependent potentiator of insulin secretion. Sci Rep. 2020;10(1):5198. Published 2020 Mar 23.