

4-MUNANA

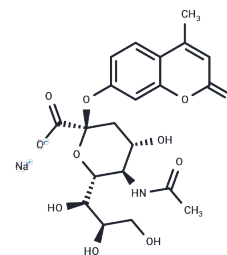
Chemical Properties

CAS No. : 76204-02-9

Formula: C₂₁H₂₄NNaO₁₁

Molecular Weight: 489.41

Storage: Keep away from direct sunlight, Keep away from moisture, Store at low temperature
 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	4-MUNANA is a fluorescent substrate employed in neuraminidase activity assays and serves as a neuraminidase substrate analogue.
Targets(IC50)	Others
In vitro	<p>Instructions:</p> <p>I. Solution preparation</p> <ol style="list-style-type: none"> 1. Stock solution: Dissolve 4-MUNANA in a suitable buffer to prepare a stock solution with a concentration of 1-10 mM. The specific concentration can be adjusted according to the experimental requirements. 2. Working solution: Dilute the 4-MUNANA stock solution to a working concentration (usually 100-500 μM). The specific concentration can be adjusted according to the experimental requirements. <p>Notes:</p> <p>Powder: Store at -20°C or lower in a dark, dry environment. Stock solution: Store at -20°C in a dark place after aliquoting. Avoid repeated freezing and thawing. Store at 4°C for a short period of time.</p> <p>II. Operation steps</p> <p>Neuraminidase activity detection</p> <ol style="list-style-type: none"> 1. Detection buffer: Prepare a buffer suitable for neuraminidase activity, such as 50 mM sodium acetate (pH 5.5). 2. Enzyme reaction: Mix a sample containing neuraminidase (such as a virus sample or cell lysate) with the 4-MUNANA working solution. 3. Incubate at 37°C for 30-60 Minutes (time can be optimized according to the experiment). 4. After the reaction is completed, add an equal volume of stop solution (such as 0.1 M glycine buffer, pH 10.4) to enhance the fluorescence signal. 5. Fluorescence detection <p>Detection method: Use a fluorescence spectrophotometer or microplate reader to detect the fluorescence signal generated by the reaction. Excitation wavelength: ~365 nm Emission wavelength: ~450 nm</p>

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In vitro	<p>Notes</p> <p>Standard curve: Use known concentrations of 4-methylumbelliferone to prepare a standard curve for quantitative analysis of neuraminidase activity.</p> <p>Control experiment: Set up negative control (no enzyme) and positive control (containing known inhibitors) to verify the specificity of the detection.</p> <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>
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Solubility Information

Solubility	<p>DMF: 15 mg/mL (30.65 mM),Sonication is recommended.</p> <p>H2O: 80 mg/mL (163.46 mM),Sonication is recommended.</p> <p>Ethanol: 0.25 mg/mL (0.51 mM),Sonication is recommended.</p> <p>PBS (pH 7.2): 10 mg/mL (20.43 mM),Sonication is recommended.</p> <p>DMSO: 255 mg/mL (521.04 mM),Sonication is recommended.</p> <p>(< 1 mg/ml refers to the product slightly soluble or insoluble)</p>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0433 mL	10.2164 mL	20.4328 mL
5 mM	0.4087 mL	2.0433 mL	4.0866 mL
10 mM	0.2043 mL	1.0216 mL	2.0433 mL
50 mM	0.0409 mL	0.2043 mL	0.4087 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

- Qorri B, Harless W, Szewczuk MR. Novel Molecular Mechanism of Aspirin and Celecoxib Targeting Mammalian Neuraminidase-1 Impedes Epidermal Growth Factor Receptor Signaling Axis and Induces Apoptosis in Pancreatic Cancer Cells. *Drug Des Devel Ther.* 2020 Oct 8;14:4149-4167.
- Márquez-Domínguez L, et al. Five Novel Non-Sialic Acid-Like Scaffolds Inhibit In Vitro H1N1 and H5N2 Neuraminidase Activity of Influenza a Virus. *Molecules.* 2020 Sep 16;25(18):4248.
- Xu R, et al. Functional balance of the hemagglutinin and neuraminidase activities accompanies the emergence of the 2009 H1N1 influenza pandemic. *J Virol.* 2012 Sep;86(17):9221-32.

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