

## 2-Deoxy-2-fluoro-L-fucose

### Chemical Properties

CAS No. : 70763-62-1

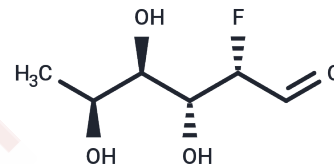
Formula: C<sub>6</sub>H<sub>11</sub>FO<sub>4</sub>

Molecular Weight: 166.15

Storage: Keep away from direct sunlight, 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	2-Deoxy-2-fluoro-L-fucose is a fucosylation inhibitor that inhibits the de novo synthesis of GDP-fucose in mammalian cells, effectively inhibits the proliferation of human cancer and primary endothelial cells, and has potential as an angiogenic therapeutic agent. It also inhibits fucosylation of plant cell wall polysaccharides, particularly affecting the dimerization of the pectin-like polysaccharide RG-II, thereby inhibiting root growth and cell elongation. 2-Deoxy-2-fluoro-L-fucose also reduces the phosphorylation of Smad 1/5 and Smad 2 in 4T1 cells.
Targets(IC50)	Others, Transferase
In vitro	<p><b>Methods:</b> 4T1 cells were treated with 2-Deoxy-2-fluoro-L-fucose (100, 250, 500 μM) and the Aleuria aurantia lectin (AAL) in the lysates was detected by Western Blot.</p> <p><b>Results:</b> 2-Deoxy-2-fluoro-L-fucose reduced the AAL signal at all concentrations and inhibited fucosylation.</p> <p><b>Methods:</b> 4T1 cells were treated with 2-Deoxy-2-fluoro-L-fucose (100 μM, 48 hours) and then plated for live cell migration analysis; Smad protein expression was assessed, and changes in signaling molecules that regulate migration were evaluated.</p> <p><b>Results:</b> Cells treated with 2-Deoxy-2-fluoro-L-fucose had impaired migration and decreased phosphorylation of Smad 1/5 and Smad 2. [1]</p>

### Solubility Information

Solubility	DMSO: 80 mg/mL (481.49 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	<p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (19.86 mM), Sonication is recommended.</p> <p>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.</p>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	6.0187 mL	30.0933 mL	60.1866 mL
5 mM	1.2037 mL	6.0187 mL	12.0373 mL
10 mM	0.6019 mL	3.0093 mL	6.0187 mL
50 mM	0.1204 mL	0.6019 mL	1.2037 mL

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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

Herrera H, et al. Core-Fucosylated Tetra-Antennary N-Glycan Containing A Single N-Acetyllactosamine Branch Is Associated with Poor Survival Outcome in Breast Cancer. *Int J Mol Sci.* 2019;20(10):2528. Published 2019 May 23.

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