bio-techne
TOCRIS

Print Date: Mar 13th 2024

Certificate of Analysis

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Product Name: **Ac_4ManNDAz** **Catalog No.: 7553** **Batch No.: 1**

CAS Number: 1015698-39-1

IUPAC Name: 2-Deoxy-2-[[3-(3-methyl-3*H*-diazirin-3-yl)-1-oxopropyl]amino]-D-mannopyranose-1,3,4,6-tetraacetate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{19}H_{27}N_3O_{10}$.

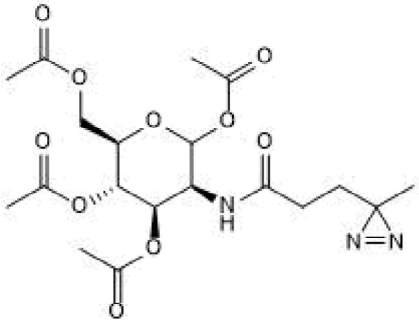
Batch Molecular Weight: 457.44

Physical Appearance: White glassy solid

Solubility: ethanol to 100 mM
DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

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Description:

Ac_4ManNDAz is a cell-permeable photo-crosslinking probe for studying glycoprotein or glycolipid interactions. The compound is an unnatural diazirine-containing monosaccharide building block, which acts as a photo-crosslinker. Once inside the cell, Ac_4ManNDAz is metabolized and incorporated into cell surface glycoproteins as a photo-crosslinking sialic acid analog. Upon UV irradiation, the diazirine group is activated to a reactive carbene that covalently crosslinks to nearby molecules.

Physical and Chemical Properties:

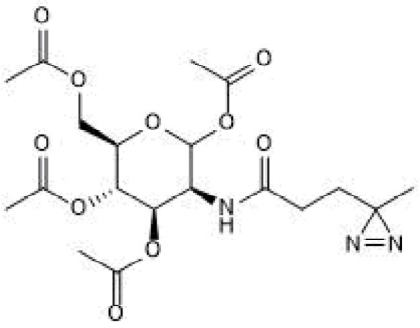
Batch Molecular Formula: $C_{19}H_{27}N_3O_{10}$.

Batch Molecular Weight: 457.44

Physical Appearance: White glassy solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

ethanol to 100 mM
DMSO to 100 mM

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Cervin *et al* (2018) GM1 ganglioside-independent intoxication by Cholera toxin. PLoS.Pathog. ***14*** e1006862. PMID: 29432456.

Bond *et al* (2011) Metabolism of diazirine-modified N-acetylmannosamine analogues to photo-cross-linking sialosides. Bioconjug.Chem. ***22*** 1811. PMID: 21838313.

Bond *et al* (2009) Photocrosslinking of glycoconjugates using metabolically incorporated diazirine-containing sugars. Nat.Protoc. ***4*** 1044. PMID: 19536272.