

Product Name: Kifunensine

Catalog No.: 3207

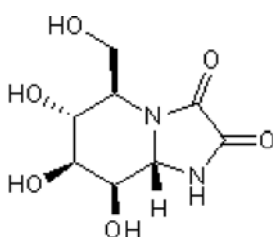
Batch No.: 7

CAS Number: 109944-15-2

IUPAC Name: (5*R*,6*R*,7*S*,8*R*,8*aS*)-Hexahydro-6,7,8-trihydroxy-5-(hydroxymethyl)-imidazo[1,2-*a*]pyridine-2,3-dione

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₂N₂O₆
Batch Molecular Weight: 232.19
Physical Appearance: White solid
Solubility: water to 5 mM with sonication
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	41.38	5.21	12.06
Found	41.46	5.16	11.91

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Kifunensine is an inhibitor of class I α -mannosidases that inhibits glycoprotein processing. Kifunensine inhibits human endoplasmic reticulum α -1,2-mannosidase I and Golgi Class I mannosidases IA, IB and IC with K_i values of 130 and 23 nM respectively. Kifunensine disrupts normal trafficking of the GLUT1 transporter, leading to decreased glucose uptake in human renal epithelial cells. Kifunensine impairs tumour cell aggregation in human ovarian cancer cells in vitro.

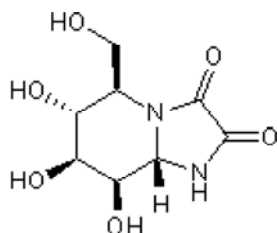
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References:

Hamester et al (2019) Prognostic relevance of the Golgi mannosidase MAN1A1 in ovarian cancer: impact of N-glycosylation on tumour cell aggregation. *Br.J.Cancer* **121** 944. PMID: 31659304.

Xiong et al (2018) Pharmacologic inhibition of N-linked glycan trimming with kifunensine disrupts GLUT1 trafficking and glucose uptake. *Int.J.Mol.Sci.* **19** 890. PMID: 29562594.

Hering et al (2005) A practical synthesis of kifunensine analogues as inhibitors of endoplasmic reticulum α -Mannosidase I. *J.Org.Chem.* **70** 9892. PMID: 16292820.

Storage: Store at -20°C

Solubility & Usage Info:

water to 5 mM with sonication

This product is supplied as a lyophilized solid and may 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. Our standard recommendations are:

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.

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