1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_8H_{12}N_2O_6$
Batch Molecular Weight: 232.19
Physical Appearance: White solid
Solubility: water to 5 mM with sonication
Storage: Store at -20°C

2. ANALYTICAL DATA

HPLC: Shows 99.9% purity
$^1$H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis: Carbon Hydrogen Nitrogen

Theoretical 41.38 5.21 12.06
Found 41.31 5.2 11.99
**Product Name:** Kifunensine  
**Catalog No.:** 3207  
**Batch No.:** 4

**CAS Number:** 109944-15-2  
**IUPAC Name:** \((5R,6R,7S,8R,8aS)-\text{Hexahydro-6,7,8-trihydroxy-5-(hydroxymethyl)-imidazo[1,2-a]pyridine-2,3-dione}\)

### Description:
Kifunensine is an inhibitor of class I \(\alpha\)-mannosidases that inhibits glycoprotein processing. Inhibits human endoplasmic reticulum \(\alpha\)-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.

### Physical and Chemical Properties:
- **Batch Molecular Formula:** \(\text{C}_{10}\text{H}_{12}\text{N}_{2}\text{O}_{8}\)
- **Batch Molecular Weight:** 232.19
- **Physical Appearance:** White solid

### Batch Molecular Structure:
![Molecular Structure of Kifunensine](image)

### 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 aliquotted 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: