Kifunensine
Item No. 10009437

CAS Registry No.: 109944-15-2
Formal Name: hexahydro-6R,7S,8aS-trihydroxy-5R-(hydroxymethyl)-imidazo[1,2-a]pyridine-2,3-dione
Synonym: FR900494
MF: C₈H₁₂N₂O₆
FW: 232.2
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λmax: 225 nm

Laboratory Procedures
For long term storage, we suggest that kifunensine be stored as supplied at -20°C. It should be stable for at least two years.

Kifunensine is supplied as a crystalline solid. Kifunensine is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of kifunensine be prepared by directly dissolving the crystalline compound in water. The solubility of kifunensine in warm distilled water is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Kifunensine was originally isolated from the actinomycete Kitasatospora kifunensine No. 9482 and shown to be a weak inhibitor of aryl mannosidase.1,2 It has since been shown to be a potent and selective inhibitor of class I α-mannosidases and may serve as a key inhibitor of glycoprotein biosynthesis.3 Kifunensine inhibits both human endoplasmic reticulum α-1,2-mannosidase I and members of the Golgi subfamily of the class I mannosidases (Golgi α-mannosidase IA, IB, and IC) exhibiting Ki values of 130 and 23 nM, respectively. It also inhibits mung bean α-1,2-mannosidase I with an IC₅₀ value of 20-50 nM.3 Kifunensine can be used to block α-mannosidase I activity at the endoplasmic reticulum (ER), preventing the removal of desired mutated proteins through ER quality control mechanisms.4,5

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/10009437

SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent with your order.

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