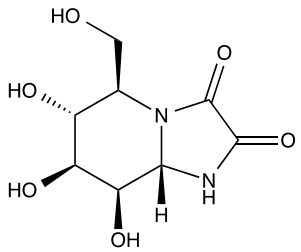
Catalog # 10-2860
Kifunensine

109944-15-2

(5*R*,6*R*,7*S*,8*R*,8a*S*)-Hexahydro-6,7,8-trihydroxy-5-(hydroxymethyl)-imidazo[1,2-*a*]pyridine-2,3-dione; FR-900494

Lot # X101399



Historically isolated from *Kitasatosporia kifunense.*[1] Inhibitor of class I α-mannosidases which inhibit glycoprotein processing. 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.[2] Inhibition of endoplasmic reticulum α-mannosidase I activity rescues the human α-sarcoglycan R77C mutation suggesting a new pharmacological approach for limb girdle muscular dystrophy type 2D patients carrying mutations that impair α-sarcoglycan trafficking.[3] Improves maturation of misfolded proteins.[4]

1) Iwami *et al*. (1987), *A new immunomodulator, FR-900494: taxonomy, fermentation, isolation, and physico-chemical and biological characteristics*; J.Antibiot. (Tokyo) **40** 612
2) Elbein *et al*. (1990), *Kifunensine, a potent inhibitor of the glycoprotein processing mannosidase I*; J.Biol.Chem. **265** 15599
3) Bartoli *et al*. (2008), *Mannosidase I inhibition rescues the human alpha-sarcoglycan R77C recurrent mutation;* Hum.Mol.Genet. **17** 1214
4) Wang *et al*. (2011), *Inhibition of endoplasmic reticulum-associated degradation rescues native folding in loss of function protein misfolding diseases*; J.Biol.Chem. **286** 43454

PHYSICAL DATA

Molecular Weight:	232.19
Molecular Formula:	$C_8H_{12}N_2O_6$
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 35 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462
www.focusbiomolecules.com