

Glucosylceramide synthase-IN-3

Chemical Properties

CAS No. :

Formula: C₂₁H₂₀FN₃O₃

Molecular Weight: 381.4

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Glucosylceramide synthase-IN-3 (compound BZ1) is a highly potent, brain-penetrant, and orally active inhibitor of glucosylceramide synthase (GCS), with an IC ₅₀ value of 16 nM for human GCS, and has potential applications in Gaucher's disease research [1] [2].
Targets(IC ₅₀)	Others,Transferase
In vitro	Glucosylceramide Synthase-IN-2 (compound BZ1) effectively reduces glucosylceramide levels, with cellular IC ₅₀ values of 94 nM in humans and 160 nM in mice, as confirmed through a fibroblast assay [1]. Additionally, it exhibits a potent IC ₅₀ of 20 nM in primary neurons [1]. Compound BZ1 demonstrates a dose-dependent decrease in glycosphingolipids across both wild-type and D409V mouse cortical neurons at concentrations of 10, 30, 100, and 300 nM. Moreover, it significantly reduces the levels of detergent-insoluble pS129 α-syn [1], indicating its broad-spectrum efficacy in biological models.
In vivo	Eight hours following administration of a single dose, Glucosylceramide synthase-IN-2 (compound BZ1; administered at 6, 20, or 100 mg/kg through oral gavage and formulated in 30% captisol) demonstrates a dose-dependent reduction in plasma GlcCer C:16:0 levels, achieving a decrease of approximately 75% compared to vehicle-treated animals. Additionally, this compound significantly lowers brain GlcCer levels to about 48% relative to vehicle-treated controls in male C57BL6 mice aged 8 weeks. Extended administration of Glucosylceramide synthase-IN-2 (6, 20, or 100 mg/kg/day over four days) results in even greater reductions in GlcCer levels. The compound also exhibits favorable pharmaceutical properties, including high permeability (pApp=26.54) and a lack of P-gp substrate activity.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6219 mL	13.1096 mL	26.2192 mL
5 mM	0.5244 mL	2.6219 mL	5.2438 mL
10 mM	0.2622 mL	1.311 mL	2.6219 mL
50 mM	0.0524 mL	0.2622 mL	0.5244 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481