Thiamet G

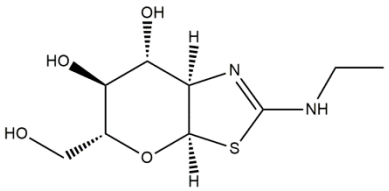
12/19

ALTERNATE NAMES: 2-ethylimino-5-(hydroxymethyl)-1,3a,5,6,7,7a-hexahydropyrano[3,2-d][1,3]thiazole-6,7-diol; 2-(ethylamino)-3aR,6S,7R,7aR-tetrahydro-5R-(hydroxymethyl)-5H-pyrano[3,2-d]thiazole-6,7-diol; O-GlcNAcase Inhibitor

CATALOG #:

B2959-5	5 mg
B2959-25	25 mg

STRUCTURE:



MOLECULAR FORMULA: $C_9H_{16}N_2O_4S$

MOLECULAR WEIGHT: 248.3

CAS NUMBER: 1009816-48-1

APPEARANCE: Solid

PURITY: 98%

SOLUBILITY: ~0.5 mg/ml in Ethanol
~20 mg/ml in DMSO and DMF

DESCRIPTION: Thiamet G is a potent and selective inhibitor of O-GlcNAcase with a K_i value of 21 nM. It increases cellular O-GlcNAc-modified protein levels with an EC_{50} of 30 nM and blocks phosphorylation of tau protein both in cultured PC-12 cells and in rats (200 mg/kg/day). It is the first highly potent O-GlcNAcase inhibitor known to be orally bioavailable and can effectively cross the blood brain barrier. It may potentially block pathological hyperphosphorylation of tau in Alzheimer's disease.

STORAGE TEMPERATURE: -20ºC. Store in the dark. Product is light sensitive. Protect from air. Store under desiccating conditions.

HANDLING: Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure.

REFERENCE: Yuzwa, S.A., Macauley, M.S., Heinonen, J.E., et al. A potent mechanism-inspired O-GlcNAcase inhibitor that blocks phosphorylation of tau in vivo. Nature Chemical Biology 4(8), 483-490 (2008).

RELATED PRODUCTS:

Congo Red (Cat. No. 2588)
Beta-Secretase Inhibitor II (Cat. No. 7502)
CHIR-98014 (Cat. No. 2595)
10Z-Hymenialdisine (Cat. No. 2212)
GSK-3039294 (Cat. No. B2374)

DISCLAIMER: ***FOR RESEARCH USE ONLY! Not to be used on humans.***