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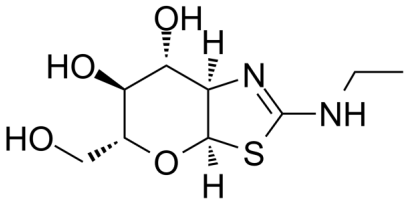
Data Sheet

Product Information

Catalog Number	BP12319
Product Name	Thiamet G
Description	Thiamet G is a potent, selective O-GlcNAcase inhibitor with Kiof 21 nM, while exhibiting 37, 000-fold selectivity over human lysosomal –hexosaminidase.
Targets&IC50	O-GlcNAcase:21 nM(Ki)
In vitro	In NGF-differentiated PC-12 cells, inhibition of O-GlcNAcase by Thiamet G increases the cellular levels of O-GlcNAc with EC50 of approximately 30 nM. Thiamet G (100 mM) reduces tau phosphorylation by approximately 2.1-fold, 2.7-fold, 1.2-fold and 1.3-fold for Ser396, Thr231, Ser422 and Ser262, respectively. Thiamet G (12.5 nM and 25 nM) significantly enhances p38 phosphorylation by increasing O-GlcNAcylation in mesangial cells. In O-GlcNAc transferase or O-GlcNAcase gain of function cells, thiamet-G restores the assembly of the spindle and partially rescues histone phosphorylation.
In vivo	In rats, thiamet G (50 mg/kg) administrated by i.v. crosses the blood brain barrier and then results in increase in brain O-GlcNAc levels in a dose- and time-dependent manner, and reduction of tau phosphorylation in rat brain. Thiamet G is also orally bioavailable. O-GlcNAc accumulation induced by thiamet G stimulates chondrogenic differentiation in C57/bl mice by increasing the gene expression of differentiation markers, as well as the activity of MMP-2 and -9.
CAS No.	1009816-48-1
Chemical Formula	C9H16N2O4S
Molecular Weight	248.3

Solubility	DMSO: 12.4 mg/mL (50 mM)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

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