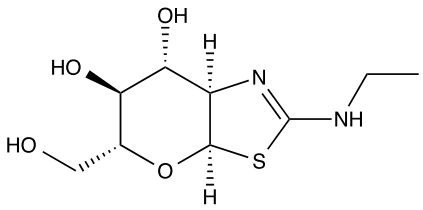
Catalog # 10-2824

Thiamet-G

1009816-48-1

(3aR,5R,6S,7R,7aR)-2-(Ethylamino)-3a,6,7,7a-tetrahydro-5-(hydroxymethyl)-5H-Pyrano[3,2-d]thiazole-6,7-diol

Lot # X106520



Potent, selective inhibitor of O-GlcNAcase (K_i = 21 nM for human O-GlcNAcase). Increases levels of O-GlcNAc-modified proteins in cellular assays and *in vivo*. Suppresses phosphorylation of tau protein in rat cortex and hippocampus.[1] Stabilizes tau against aggregation and slows neurodegeneration.[2] Prevents cognitive decline and amyloid plaque formation in bigenic tau/APP mutant mice.[3] Elevates soluble tau species and reduces tauopathy in mouse models.[4] Active *in vivo* and blood brain barrier permeable.

1) Yuzwa *et al*. (2008), *A potent mechanism-inspired O-GlcNAcase inhibitor that blocks phosphorylation of tau in vivo*; Nat.Chem.Biol. **4** 483
2) Yuzwa *et al*. (2012), *Increasing O-GlcNAc slows neurodegeneration and stabilizes tau against aggregation*; Nat.Chem.Biol. **8** 393
3) Yuzwa *et al*. (2014), *Pharmacological inhibition of O-GlcNAcase (OGA) prevents cognitive decline and amyloid plaque formation in bigenic tau/APP mutant mice*; Mol.Neurodegener. **9** 42
4) Hastings *et al*. (2017) *Inhibition of O-GlcNAcase leads to elevation of O-GlcNAc tau and reduction of tauopathy and cerebrospinal fluid tau in rTg4510 mice*; Mol. Neurodegener. **12**:39

PHYSICAL DATA

Molecular Weight:	248.30
Molecular Formula:	$C_9H_{16}N_2O_4S$
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (10 mg/mL)
Physical Description:	Pale yellow 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.

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