

## 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<sub>i</sub> = 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.<sup>3</sup> Elevates soluble tau species and reduces tauopathy in mouse models <sup>4</sup> 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)

DMSO (10 mg/mL)

Solubility: 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.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.