

**Product Name:** Thiamet G

**Catalog No.:** 4390

**Batch No.:** 6

CAS Number: 1009816-48-1

IUPAC Name: (3a*R*,5*R*,6*S*,7*R*,7a*R*)-2-(Ethylamino)-3a,6,7,7a-tetrahydro-5-(hydroxymethyl)-5*H*-pyrano[3,2-*d*]thiazole-6,7-diol

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>9</sub>H<sub>16</sub>N<sub>2</sub>O<sub>4</sub>S·¾H<sub>2</sub>O

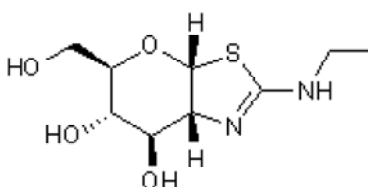
**Batch Molecular Weight:** 261.81

**Physical Appearance:** White solid

**Solubility:** DMSO to 50 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	41.29	6.74	10.7
Found	41.42	6.55	10.68

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Potent, selective inhibitor of O-GlcNAcase ( $K_i = 21$  nM for human O-GlcNAcase). Decreases the phosphorylation of tau protein *in vivo*. Promotes autophagy independently of mTOR pathway and reduces toxic protein species in mouse tauopathy model. Orally bioavailable and blood brain barrier permeable.

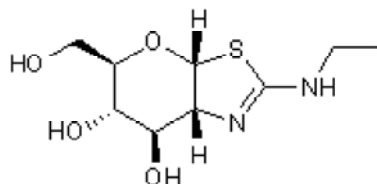
**Physical and Chemical Properties:**

Batch Molecular Formula:  $C_9H_{16}N_2O_4S \cdot \frac{3}{4}H_2O$

Batch Molecular Weight: 261.81

Physical Appearance: White solid

**Batch Molecular Structure:**



**References:**

**Zhu *et al*** (2018) Pharmacological inhibition of O-GlcNAcase enhances autophagy in brain through an mTOR-independent pathway ACS Chem.Neurosci. **9** 1366. PMID: 29460617.

**Yuzwa *et al*** (2008) A potent mechanism-inspired O-GlcNAcase inhibitor that blocks phosphorylation of tau *in vivo*. Nat.Chem.Biol. **4** 483. PMID: 18587388.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 50 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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