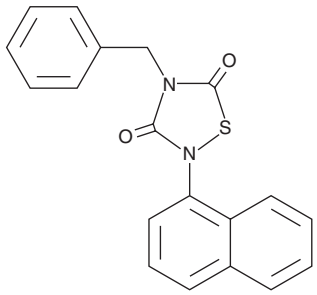
PRODUCT INFORMATION

Tideglusib

Item No. 16727

CAS Registry No.:	865854-05-3
Formal Name:	2-(1-naphthalenyl)-4-(phenylmethyl)-1,2,4-thiadiazolidine-3,5-dione
Synonym:	NP031112
MF:	$C_{19}H_{14}N_2O_2S$
FW:	334.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 225, 285 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tideglusib is supplied as a crystalline solid. A stock solution may be made by dissolving the tideglusib in the solvent of choice, which should be purged with an inert gas. Tideglusib is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of tideglusib in these solvents is approximately 1 mg/ml.

Tideglusib is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tideglusib should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tideglusib has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tideglusib is a thiadiazolidinone that prevents inflammation and neurodegeneration when injected into rat hippocampus concurrently with kainic acid, a compound that causes excitotoxicity.[1] Tideglusib-induced neuroprotection, in this model, is attenuated by the PPARγ antagonist GW9662 (Item No. 70785).[1] Interestingly, tideglusib also irreversibly inhibits glycogen synthase kinase-3β (GSK3β) with an IC_{50} value of 5 nM when used with a one hour preincubation, increasing to 0.1-1 µM without preincubation.[2,3] Several GSK3 inhibitors, including tideglusib, promote hippocampal neurogenesis both *in vitro* and *in vivo*, suggesting suitability in Alzheimer's therapy.[3,4]

References

1. Luna-Medina, R., Cortes-Canteli, M., Sanchez-Galiano, S., *et al.* NP031112, a thiadiazolidinone compound, prevents inflammation and neurodegeneration under excitotoxic conditions: Potential therapeutic role in brain disorders. *J. Neurosci.* **27(21)**, 5766-5776 (2007).
2. Domínguez, J.M., Fuertes, A., Orozco, L., *et al.* Evidence for irreversible inhibition of glycogen synthase kinase-3β by tideglusib. *J. Biol. Chem.* **287(2)**, 893-904 (2012).
3. Morales-Garcia, J.A., Luna-Medina, R., Alonso-Gil, S., *et al.* Glycogen synthase kinase 3 inhibition promotes adult hippocampal neurogenesis in vitro and in vivo. *ACS Chem. Neurosci.* **3(11)**, 963-971 (2012).
4. Martinez, A., Gil, C., and Perez, D.I. Glycogen synthase kinase 3 inhibitors in the next horizon for Alzheimer's disease treatment. *Int. J. Alzheimers Dis.* **280502** (2011).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM