

# PRODUCT INFORMATION



## GSK3 $\beta$ Inhibitor VIII

Item No. 14704

CAS Registry No.: 487021-52-3

Formal Name: N-[(4-methoxyphenyl)methyl]-N'-(5-nitro-2-thiazolyl)-urea

Synonyms: AR 014418, AR 0133418, Glycogen Synthase Kinase 3 $\beta$  Inhibitor VIII, SN 4521

MF: C<sub>12</sub>H<sub>12</sub>N<sub>4</sub>O<sub>4</sub>S

FW: 308.3

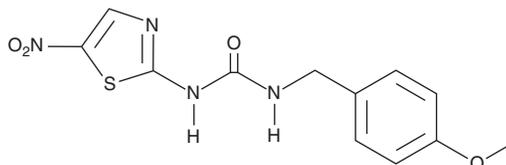
Purity:  $\geq$ 98%

UV/Vis.:  $\lambda_{\text{max}}$ : 226, 275, 348, 353 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability:  $\geq$ 4 years



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

### Laboratory Procedures

GSK3 $\beta$  inhibitor VIII is supplied as a crystalline solid. A stock solution may be made by dissolving the GSK3 $\beta$  inhibitor VIII in the solvent of choice, which should be purged with an inert gas. GSK3 $\beta$  inhibitor VIII is soluble in the organic solvent DMSO at a concentration of approximately 30 mg/ml.

### Description

GSK3 $\beta$  inhibitor VIII is an ATP-competitive inhibitor of the serine/threonine kinase, glycogen synthase kinase 3 $\beta$  ( $K_i$  = 38 nM;  $IC_{50}$  = 104 nM).<sup>1</sup> It does not significantly inhibit the closely related cyclin-dependent kinase (Cdk)2 or Cdk5 ( $K_i$ s = > 100  $\mu$ M).<sup>1</sup> GSK3 $\beta$  inhibitor VIII demonstrates neuroprotective effects by inhibiting tau phosphorylation ( $IC_{50}$  = 2.7  $\mu$ M) at a GSK3-specific site (Ser<sup>396</sup>) in cells stably expressing human four-repeat tau protein and also by protecting  $\beta$ -amyloid-exposed N2A neuroblastoma cells against cell death.<sup>1</sup>

### Reference

1. Bhat, R., Xue, Y., Berg, S., *et al.* Structural insights and biological effects of glycogen synthase kinase 3-specific inhibitor AR-A014418. *J. Biol. Chem.* **278**(46), 45937-45945 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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