

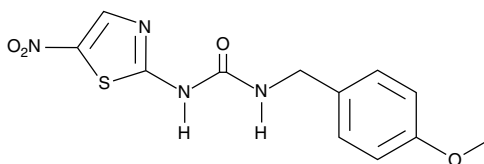
# Product Information



## 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%  
**Stability:**  $\geq$ 2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 226, 275, 348, 353 nm



### Laboratory Procedures

For long term storage, we suggest that GSK3 $\beta$  Inhibitor VIII be stored as supplied at -20°C. It should be stable for at least two years.

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. GSK3 $\beta$  Inhibitor VIII is soluble in DMSO at a concentration of approximately 30 mg/ml.

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).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/14704](http://www.caymanchem.com/catalog/14704)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

**For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.**

Copyright Cayman Chemical Company, 10/21/2014

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)