

Certificate of Analysis

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Product Name: AR-A 014418

Catalog No.: 3966

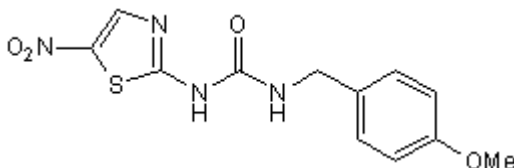
Batch No.: 1

CAS Number: 487021-52-3

IUPAC Name: *N*-[(4-Methoxyphenyl)methyl]-*N'*-(5-nitro-2-thiazolyl)urea

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₁₂N₄O₄S
Batch Molecular Weight: 308.31
Physical Appearance: Off-white solid
Solubility: DMSO to 100 mM
ethanol to 5 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.58 (Dichloromethane:Ethanol [9:1])
HPLC: Shows >99.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.75	3.92	18.17
Found	46.88	3.78	18.01

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

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Description:

Selective glycogen synthase kinase 3 (GSK-3) inhibitor (IC₅₀ = 104 nM). Exhibits specificity for GSK-3 over cdk2 and cdk5 (IC₅₀ values are > 100 μM) and over 26 other kinases. Inhibits β-amyloid-mediated neurodegeneration in hippocampal slices.

Physical and Chemical Properties:

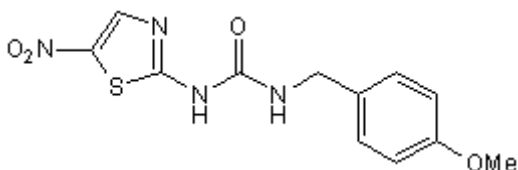
Batch Molecular Formula: C₁₂H₁₂N₄O₄S

Batch Molecular Weight: 308.31

Physical Appearance: Off-white solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 5 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.

References:

Bhat and Budd (2002) GSK3β signalling: casting a wide net in Alzheimer's disease. *Neurosignals* **11** 251. PMID: 12566926.

Bhat et al (2003) Structural insights and biological effects of glycogen synthase kinase 3-specific inhibitor AR-A014418. *J.Biol.Chem.* **278** 45937. PMID: 12928438.

Gould et al (2004) AR-A014418, a selective GSK-3 inhibitor, produces antidepressant-like effects in the forced swim test. *Int.J.Neuropsychopharmacol.* **7** 387. PMID: 15315719.

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