

Certificate of Analysis

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Product Name: C16

Catalog No.: 5382

Batch No.: 1

CAS Number: 608512-97-6

IUPAC Name: 6,8-Dihydro-8-(1*H*-imidazol-5-ylmethylene)-7*H*-pyrrolo[2,3-*g*]benzothiazol-7-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₈N₄OS.¼H₂O

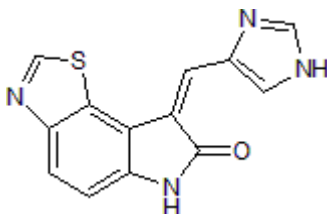
Batch Molecular Weight: 272.79

Physical Appearance: Orange solid

Solubility: DMSO to 50 mM
ethanol to 20 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57.24	3.14	20.54
Found	57.32	3.09	20.3

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

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Description:

PKR inhibitor (IC₅₀ = 210 nM). Rescues PKR-dependent translation block *in vitro*. Decreases Aβ₄₂-induced inflammatory cytokine release and apoptosis in neuronal cultures. Prevents neuroinflammation and neuronal loss in an acute excitotoxic rat model. Brain penetrant.

Physical and Chemical Properties:

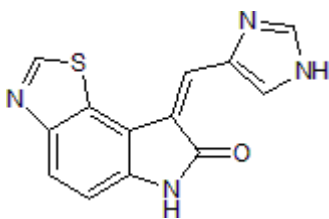
Batch Molecular Formula: C₁₃H₈N₄OS.½H₂O

Batch Molecular Weight: 272.79

Physical Appearance: Orange solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 50 mM

ethanol to 20 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:

Jammi et al (2003) Small molecule inhibitors of the RNA-dependent protein kinase. *Biochem.Biophys.Res.Comm.* **308** 50. PMID: 12890478.

Ingrand et al (2007) The oxindole/imidazole derivative C16 reduces *in vivo* brain PKR activation. *FEBS Lett.* **581** 4473. PMID: 17761171.

Couturier et al (2011) Prevention of the β-amyloid peptide-induced inflammatory process by inhibition of double-stranded RNA-dependent protein kinase in primary murine mixed co-cultures. *J.Neuroinflammation* **8**. PMID: 21699726.

Tronel et al (2014) The specific PKR inhibitor C16 prevents apoptosis and IL-1β production in an acute excitotoxic rat model with a neuroinflammatory component. *Neurochem.Int.* **64** 73. PMID: 24211709.

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