

# Certificate of Analysis

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**Product Name:** SB 216763

**Catalog No.:** 1616

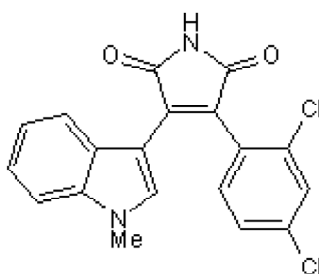
**Batch No.:** 4

CAS Number: 280744-09-4

IUPAC Name: 3-(2,4-Dichlorophenyl)-4-(1-methyl-1*H*-indol-3-yl)-1*H*-pyrrole-2,5-dione

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>19</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 371.22  
**Physical Appearance:** Orange solid  
**Solubility:** DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 98.1% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	61.48	3.26	7.55
Found	61.49	3.24	7.43

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

**bio-techne.com**  
[info@bio-techne.com](mailto:info@bio-techne.com)  
[techsupport@bio-techne.com](mailto:techsupport@bio-techne.com)

**North America**  
 Tel: (800) 343 7475

**China**  
[info.cn@bio-techne.com](mailto:info.cn@bio-techne.com)  
 Tel: +86 (21) 52380373

**Europe Middle East Africa**  
 Tel: +44 (0)1235 529449

**Rest of World**  
[www.tocris.com/distributors](http://www.tocris.com/distributors)  
 Tel: +1 612 379 2956

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**Description:**

SB 216763 is a potent and selective, ATP-competitive glycogen synthase kinase-3 (GSK-3) inhibitor ( $IC_{50}$  = 34.3 nM for GSK-3 $\alpha$ ). Equally effective at inhibiting human GSK-3 $\alpha$  and GSK-3 $\beta$ . Exhibits minimal activity against 24 other protein kinases ( $IC_{50}$  >10  $\mu$ M). Stimulates glycogen synthesis in liver cells, and induces  $\beta$ -catenin-dependent gene transcription. Neuroprotective; also reduces pulmonary inflammation and fibrosis in a mouse model. Shown to maintain mouse embryonic stem cells in a pluripotent state.

**Physical and Chemical Properties:**

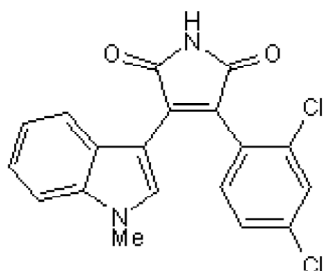
Batch Molecular Formula: C<sub>19</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>

Batch Molecular Weight: 371.22

Physical Appearance: Orange solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at RT

**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 100 mM

When purchased as a 1mg unit, this product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

**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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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.

**Licensing Information:**

Sold for research purposes under agreement from GlaxoSmithKline

**References:**

**Kirby *et al*** (2012) Glycogen synthase kinase 3 (GSK3) inhibitor, SB-216763, promotes pluripotency in mouse embryonic stem cells. *PLoS One* **7** e39329. PMID: 22745733.

**Gurrieri *et al*** (2010) 3-(2,4-dichlorophenyl)-4-(1-methyl-1H-indol-3-yl)-1H-pyrrole-2,5-dione (SB216763), a glycogen synthase kinase-3 inhibitor, displays therapeutic properties in a mouse model of pulmonary inflammation and fibrosis. *J.Pharmacol.Exp.Ther.* **332** 785. PMID: 19959748.

**Liang and Chuang** (2006) Regulation and function of glycogen synthase kinase-3 isoforms in neuronal survival. *J.Biol.Chem.* **282** 3904. PMID: 17148450.

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**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

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Tel: +86 (21) 52380373

**Europe Middle East Africa**

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