

## Certificate of Analysis

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**Product Name:** TDZD 8

**Catalog No.:** 6092

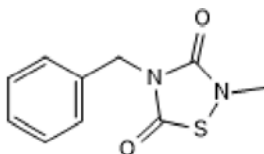
**Batch No.:** 1

CAS Number: 327036-89-5

IUPAC Name: 2-Methyl-4-(phenylmethyl)-1,2,4-thiadiazolidine-3,5-dione

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>S  
**Batch Molecular Weight:** 222.26  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 99.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	54.04	4.53	12.6
Found	54.19	4.43	12.36

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

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**Description:**

Selective non-ATP competitive inhibitor of GSK 3 $\beta$  (IC<sub>50</sub> = 2  $\mu$ M); thiadiazolidinone derivative. Does not inhibit Cdk-1/cyclin B, CK-II, PKA or PKC at >100  $\mu$ M. Reduces severity of L-dopa-induced dyskinesia in a Parkinson's disease in vivo model.

**Physical and Chemical Properties:**

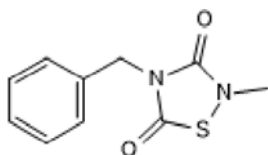
Batch Molecular Formula: C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>S

Batch Molecular Weight: 222.26

Physical Appearance: White 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 100 mM

ethanol to 100 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:**

**Xie et al** (2016) Inhibition of Glycogen Synthase Kinase-3 $\beta$  (GSK-3 $\beta$ ) as potent therapeutic strategy to ameliorates L-dopa-induced dyskinesia in 6-OHDA parkinsonian rats. *Sci.Rep.* **6** 23527. PMID: 26997328.

**Martinez et al** (2002) First non-ATP competitive glycogen synthase kinase 3 beta (GSK-3beta) inhibitors: thiadiazolidinones (TDZD) as potential drugs for the treatment of Alzheimer's disease. *J.Med.Chem.* **45** 1292. PMID: 11881998.

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