

**Product Name:** IWP 4

**Catalog No.:** 5214

**Batch No.:** 4

CAS Number: 686772-17-8

IUPAC Name: *N*-(6-Methyl-2-benzothiazolyl)-2-[(3,4,6,7-tetrahydro-3-(2-methoxyphenyl)-4-oxothieno[3,2-d]pyrimidin-2-yl)thio]-acetamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>23</sub>H<sub>20</sub>N<sub>4</sub>O<sub>3</sub>S<sub>3</sub> · 1/4H<sub>2</sub>O

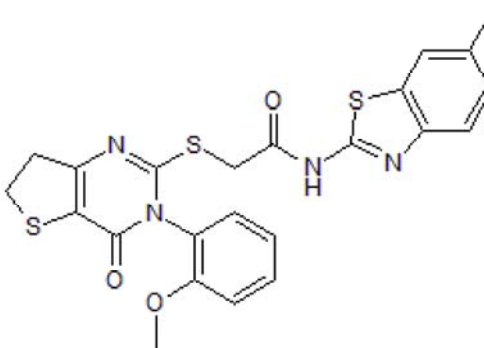
**Batch Molecular Weight:** 501.12

**Physical Appearance:** Cream solid

**Solubility:** DMSO to 1 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 98.9% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	55.13	4.12	11.18
Found	54.75	4.02	10.92

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

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**Description:**

IWP 4 is a potent inhibitor of Wnt/ $\beta$ -catenin signaling ( $IC_{50}$  = 25 nM). Has minimal effect on Notch and Hedgehog signaling pathways. Induces differentiation of cardiomyocytes from human ESCs and iPSCs.

**Physical and Chemical Properties:**

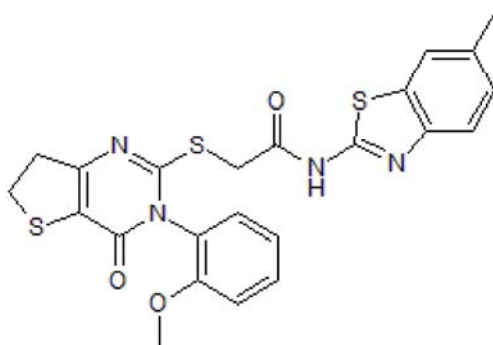
Batch Molecular Formula:  $C_{23}H_{20}N_4O_3S_3 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 501.12

Physical Appearance: Cream solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 1 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:**

Noor *et al* (2019) 3D Printing of Personalized Thick and Perfusable Cardiac Patches and Hearts. *Adv Sci (Weinh)* **6** 1900344. PMID: 31179230.

Hoang *et al* (2018) Generation of spatial-patterned early-developing cardiac organoids using human pluripotent stem cells. *Nat Protoc.* **13** 723. PMID: 29543795 .

Narytnyk *et al* (2014) Differentiation of human epidermal neural crest stem cells (hEPI-NCSC) into virtually homogenous populations of DArgic neurons. *Stem Cell Rev.* **10** 316. PMID: 24399192.

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