TOCRIS
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Print Date: Feb 24th 2022

# Certificate of Analysis

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**Product Name:** **IWP 2** **Catalog No.: 3533** **Batch No.: 8**

CAS Number: 686770-61-6

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

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** $C_{22}H_{18}N_4O_2S_3.¼H_2O$

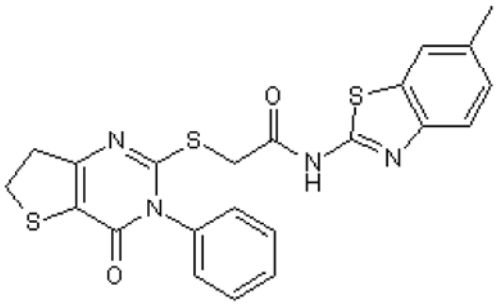
**Batch Molecular Weight:** 471.1

**Physical Appearance:** Off-white solid

**Solubility:** DMSO to 5 mM with gentle warming

**Storage:** Store at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.3% purity

**$^1$H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

| | Carbon | Hydrogen | Nitrogen |
|---|---|---|---|
| Theoretical | 56.09 | 3.96 | 11.89 |
| Found | 55.94 | 3.86 | 11.95 |



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# Product Information



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**Description:**

IWP 2 is a potent inhibitor of Wnt processing and secretion ($IC_{50}$ = 27nM). IWP 2 inactivates PORCN, a membrane-bound O-acyltransferase (MBOAT), and selectively inhibits palmitoylation of Wnt. Blocks Wnt-dependent phosphorylation of Lrp6 receptor and Dvl2, and β-catenin accumulation. IWP 2 suppresses self-renewal in R1 embryonic stem cells and promotes cardiomyocyte differentiation from hPSCs.

**Physical and Chemical Properties:**

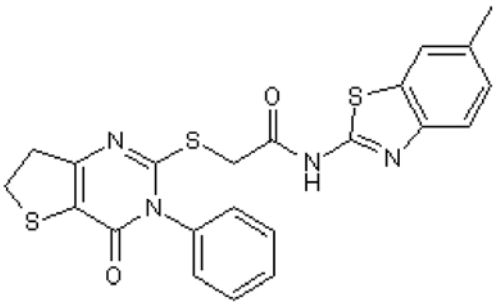
Batch Molecular Formula: $C_{22}H_{18}N_4O_2S_3.¼H_2O$

Batch Molecular Weight: 471.1

Physical Appearance: Off-white solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 5 mM with gentle warming

**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.

**Lian** *et al* (2012) Robust cardiomyocyte differentiation from human pluripotent stem cells via temporal modulation of canonical Wnt signaling. Proc.Natl.Acad.Sci.U S A ***109*** E1848. PMID: 22645348.