

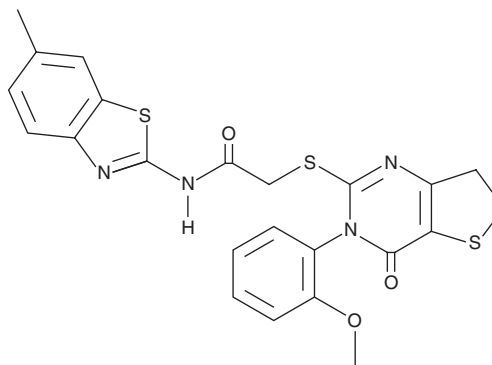
# PRODUCT INFORMATION



## IWP-4

Item No. 13954

**CAS Registry No.:** 686772-17-8  
**Formal 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  
**Synonym:** Inhibitor of Wnt Production-4  
**MF:** C<sub>23</sub>H<sub>20</sub>N<sub>4</sub>O<sub>3</sub>S<sub>3</sub>  
**FW:** 496.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 279, 302, 343 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

IWP-4 is supplied as a crystalline solid. A stock solution may be made by dissolving the IWP-4 in the solvent of choice, which should be purged with an inert gas. IWP-4 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of IWP-4 in these solvents is approximately 2 and 5 mg/ml, respectively.

IWP-4 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IWP-4 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. IWP-4 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

IWP-4 is an inhibitor of Wnt production that impairs Wnt pathway activity *in vitro* with an IC<sub>50</sub> value of 25 nM.<sup>1</sup> IWP-4 inactivates Porcupine, a membrane-bound O-acyltransferase responsible for palmitoylating Wnt proteins, which is essential for their signaling ability and secretion.<sup>1</sup> At 5 μM, IWP-4 has been shown to block Wnt-dependent phosphorylation of the low-density lipoprotein receptor-related protein 6 receptor and the scaffold protein Dishevelled, preventing the accumulation of β-catenin.<sup>1</sup> This compound has been used to induce cardiomyocyte differentiation from human pluripotent stem cells.<sup>2</sup>

### References

1. Chen, B., Dodge, M.E., Tang, W., *et al.* Small molecule-mediated disruption of Wnt-dependent signaling in tissue regeneration and cancer. *Nat. Chem. Biol.* **5**(2), 100-107 (2009).
2. Lian, X., Hsiao, C., Wilson, G., *et al.* Robust cardiomyocyte differentiation from human pluripotent stem cells via temporal modulation of canonical Wnt signaling. *Proc. Natl. Acad. Sci. USA* E1848-E1857 (2012).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM