IWP-2 inhibits the WNT pathway ($IC_{50} = 27$ nM) at the level of the pathway activator Porcupine. Porcupine is a membrane-bound acyltransferase that palmitoylates WNT proteins, which leads to WNT secretion and signaling capability (Chen et al.; Willert et al.).

**Product Description**

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**Molecular Name:** IWP-2  
**Alternative Names:** Inhibitor of WNT Production-2  
**CAS Number:** 686770-61-6  
**Chemical Formula:** $C_{22}H_{18}N_4O_2S_3$  
**Molecular Weight:** 466.6 g/mol  
**Purity:** ≥ 95%  
**Chemical Name:** N-(6-methyl-2-benzothiazolyl)-2-[(3,4,6,7-tetrahydro-4-oxo-3-phenylthieno[3,2-d]pyrimidin-2-yl)thio]-acetamide

**Structure:**

![Structure of IWP-2](image-url)

**Properties**

**Physical Appearance:** A crystalline solid  
**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.  
**Solubility:** DMSO ≤ 4 mM  
For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 2.14 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

DIFFERENTIATION
- Suppresses self-renewal of mouse embryonic stem (ES) cells and supports their conversion to epiblast-like stem cells (ten Berge et al.).
- Inhibits maintenance and proliferation of mouse Lgr5+ intestinal and cochlear epithelial stem cells, demonstrating the importance of WNT signaling in these processes (Chai et al.; Farin et al.).
- Promotes cardiomyocyte differentiation from human pluripotent stem cells (Lian et al.; Minami et al.).

References


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