



Product Specification Sheet

Product Name	Stemolecule™ Wnt Inhibitor IWP-3
Description	Stemolecule Wnt Inhibitor IWP-3 was identified in a high throughput screen for antagonists of the Wnt/ β -catenin pathway. Wnt Inhibitor IWP-3 prevents palmitoylation of Wnt proteins by Porcupine (Porcn), a membrane-bound O-acyltransferase, thereby blocking Wnt secretion and activity. It also blocks phosphorylation of the Lrp6 receptor and accumulation of both Dvl2 and β -catenin ¹ . The inhibition of the Wnt pathway through the use of IWP-3 has also been shown to promote the formation of cardiocytes from human embryonic stem cell-derived mesoderm cells ² .
Catalog Number	04-0035
Size	2 mg
Alternate Name	2-(3-(4-fluorophenyl)-3,4,6,7-tetrahydro-4-oxothieno[3,2-d]pyrimidin-2-ylthio)-N-(6-methylbenzo[d]thiazol-2-yl)acetamide
Chemical Formula	C ₂₂ H ₁₇ FN ₄ O ₂ S ₃
Structure	
Molecular Weight	484.59
CAS Number	N/A
Purity	Greater than 99% by HPLC analysis
Formulation	Light yellow solid
Solubility	For a 10 mM concentrated stock solution of Wnt Inhibitor IWP-3, reconstitute the compound by adding 412.7 μ l of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance to DMSO is less than 0.5%. This molecule is soluble in DMSO at 100 mM.
Storage and Stability	Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed.
Quality Control	The purity of Wnt Inhibitor IWP-3 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of Wnt Inhibitor IWP-3 was tested on mouse embryonic stem cells.

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References

1. Chen, B., Dodge, M.E., Tang, W., Lu, J., Ma, Z., Fan, C.W., Wei, S., Hao, W., Kilgore, J., Williams, N.S., Roth, M.G., Amatruda, J.F., Chen, C., and Lum, L. (2009) Small molecule-mediated disruption of Wnt-dependent signaling in tissue regeneration and cancer. *Nat Chem Biol* 5: 100-107.
2. Willems, E., Spiering, S., Davidovics, H., Lanier, M., Xia, Z., Dawson, M., Cashman, J., and Mercola, M. (2011) Small-molecule inhibitors of the Wnt pathway potently promote cardiomyocytes from human embryonic stem cell-derived mesoderm. *Circ Res* 109: 360-364.

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