



Technical Data Sheet:

IWP-4

Catalog Number	SML04A
Synonyms	IWP 4, Inhibitor of WNT Production-4
Size	5 mg
Description	IWP-4 is an inhibitor of the Wnt pathway, specifically targeting membrane-bound O-acyltransferase porcupine (PORCN) with an IC ₅₀ of 25 nM. IWP-4 has been an effective component within differentiation protocols of pluripotent stem cells (PSCs) into functional cardiomyocytes when combined with CHIR99021 (Cat. No. SML01B), IWP-2 (Cat. No. SML03B), Activin A, bFGF, and BMP4 (Lian, et al.), as well as in suspension cultures for cardiac differentiation from human PSCs (Chen, et al.). IWP-4 precisely induces expression of myosin light chain in both atrial and ventricular forms for the creation of primitive cardiomyocytes from human embryonic stem cells (ESCs) (Hudson, et al.).
Molecular Weight	496.62
Molecular Formula	C ₂₃ H ₂₀ N ₄ O ₃ S ₃
Chemical Name	Acetamide, N-(6-methyl-2-benzothiazolyl)-2-[[3,4,6,7-tetrahydro-3-(2-methoxyphenyl)-4-oxothieno[3,2-d]pyrimidin-2-yl]thio]-
CAS Number	686772-17-8
Target	Porcupine (PORCN)
Appearance	White to off-white (Solid)
Purity	≥95% by HPLC
Solubility and Reconstitution	Soluble in DMSO up to 1 mM, for example: 5 mg/1006.810 mL = 0.005 mg/mL = 0.01 mM 5 mg/201.361 mL = 0.025 mg/mL = 0.05 mM 5 mg/100.680 mL = 0.049 mg/mL = 0.1 mM 5 mg/20.136 mL = 0.248 mg/mL = 0.5 mM
Storage Temperature and Stability	Powder: -20°C 3 years 4°C 2 years In solvent: -80°C 6 months -20°C 1 month
References	Chen, et al. 2015. Development of a scalable suspension culture for cardiac differentiation from human pluripotent stem cells. <i>Stem Cell Research</i> . 15(2): 365-375. Hudson, et al. 2011. Primitive cardiac cells from human embryonic stem cells. <i>Stem Cells and Development</i> . 21(9): 1513-23. Lian, et al. 2013. Directed cardiomyocyte differentiation from human pluripotent stem cells by modulating Wnt/β-catenin signaling under fully defined conditions. <i>Nature Protocols</i> 8(1): 162-175.