

Product Datasheet

DMH-1

Catalog No. **BP-01852** · CAS **1206711-16-1** · Form **free base** · Physical state **solid** · Color **Off-white to yellow** · Version **1.0** · Revision **2026-09-07**

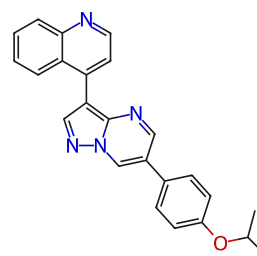
FOR RESEARCH USE ONLY. NOT FOR HUMAN OR VETERINARY USE.

Target TGF-β Receptor; Organoid; Microtubule/Tubulin	Research area Cardiovascular Disease; Neurological Disease
--	--

Molecular formula **C₂₄H₂₀N₄O**

Molecular weight **380.4418**

STRUCTURE



DESCRIPTION

DMH-1 is a potent and selective BMP inhibitor with IC₅₀s of 27/107.9/<5/47.6 nM for ALK1/ALK2/ALK3/ALK6, respectively.

BIOLOGICAL ACTIVITY

In Vitro

DMH-1 (0.5 μM) induces the formation of beating embryoid bodies (EBs), with an efficiency of approximately 20% on day 7, peaking at approximately 75% on day 9. Its efficiency at all evaluated time points is significantly higher than that of the DMSO control group.

DMH-1 (0.5 μM) specifically upregulates the expression profile of canonical cardiogenic genes, including *BryT*, *Mesp1*, *Isl1* and *Nkx2.5*, and does not significantly induce the expression of non-cardiomyocyte mesodermal, endodermal or ectodermal markers compared with the DMSO control group.

DMH-1 (0.5 μM; 24-48 h) does not induce cell apoptosis.

DMH-1 (0.5-10 μM; 7 days) increases the expression of SOX1 in hiPSCs in a concentration-dependent manner.

DMH-1 (0.5 μM) induces hiPSC-derived neural progenitor cells to differentiate into β3-tubulin-positive neurons.

SOLUBILITY

Soluble in DMSO

REFERENCES

[1]. Engers DW, et al. Synthesis and structure-activity relationships of a novel and selective bone morphogenetic protein receptor (BMP) inhibitor derived from the pyrazolo[1,5-a]pyrimidine scaffold of dorsomorphin: the discovery of mL347 as an ALK2 versus ALK3 selective m LPCN probe. *Bioorg Med Chem Lett*. 2013 Jun 1;23(11):3248-52.

- [2]. Sheng Y, et al. DMH1 (4-[6-(4-isopropoxyphenyl)pyrazolo[1,5-a]pyrimidin-3-yl]quinoline) inhibits chemotherapeutic drug-induced autophagy. *Acta Pharm Sin B*. 2015 Jul;5(4):330-6.
- [3]. Neely MD, et al. DMH1, a highly selective small molecule BMP inhibitor promotes neurogenesis of hiPSCs: comparison of PAX6 and SOX1 expression during neural induction. *ACS Chem Neurosci*. 2012 Jun 20;3(6):482-91.
- [4]. Hover LD, et al. Small molecule inhibitor of the bone morphogenetic protein pathway DMH1 reduces ovarian cancer cell growth. *Cancer Lett*. 2015 Nov 1;368(1):79-87.
- [5]. Hao J, et al. DMH1, a small molecule inhibitor of BMP type i receptors, suppresses growth and invasion of lung cancer. *PLoS One*. 2014 Mar 6;9(6):e90748.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com

BiochemProbe is the catalog brand of Guangzhou Yuyuan Biotech Co., Ltd. · For research use only.

Lot CoA and SDS are separate documents.