

Product Name: DMH-1

Catalog No.: 4126

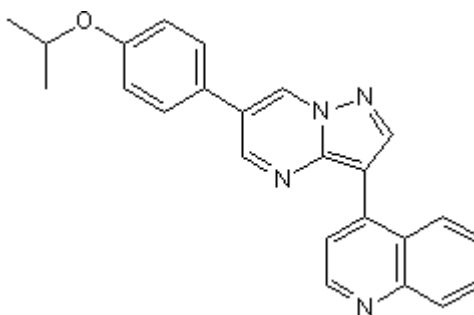
Batch No.: 2

CAS Number: 1206711-16-1

IUPAC Name: 4-[6-[4-(1-Methylethoxy)phenyl]pyrazolo[1,5-a]pyrimidin-3-yl]-quinoline

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{24}H_{20}N_4O$
Batch Molecular Weight: 380.44
Physical Appearance: Pale orange solid
Solubility: DMSO to 20 mM
 ethanol to 5 mM with gentle warming
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: $R_f = 0.59$ (Dichloromethane:Methanol [95:5])
HPLC: Shows >99.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

| | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 75.77 | 5.3 | 14.73 |
| Found | 75.37 | 5.38 | 14.62 |

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Selective inhibitor of the bone morphogenic protein (BMP) ALK2 receptor (IC_{50} = 108 nM). Exhibits no detectable inhibition of AMPK, ALK5, KDR (VEGFR-2) or PDGFR β receptors. Blocks BMP4-induced phosphorylation of Smads 1, 5 and 8 in HEK293 cells. Promotes neurogenesis in human induced pluripotent stem cells (iPSCs) when used in combination with SB 431542 (Cat. No. 1614).

Physical and Chemical Properties:

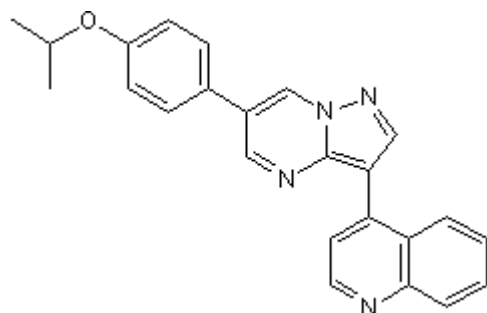
Batch Molecular Formula: $C_{24}H_{20}N_4O$

Batch Molecular Weight: 380.44

Physical Appearance: Pale orange solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 20 mM

ethanol to 5 mM with gentle warming

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Bowman and Zon (2010) Swimming into the future of drug discovery: *in vivo* chemical screens in zebrafish. *ACS Chem.Biol.* **5** 159. PMID: 20166761.

Hao et al (2010) *In vivo* structure-activity relationship study of dorsomorphin analogues identifies selective VEGF and BMP inhibitors. *ACS Chem.Biol.* **5** 245. PMID: 20020776.

Neely et al (2012) DMH1, a highly selective small molecule BMP inhibitor, promotes neurogenesis of hiPSCs: comparison of PAX6 and SOX1 expression during neural induction. *ACS Chem.Neurosci.* **3** 482. PMID: 22860217.

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