TOCRIS
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Print Date: Jun 9th 2022

Certificate of Analysis

www.tocris.com

Product Name: **DMH-1** **Catalog No.: 4126** **Batch No.: 4**

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: $C_{24}H_{20}N_4O$

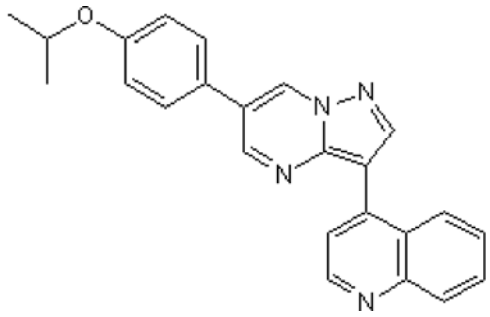
Batch Molecular Weight: 380.44

Physical Appearance: Yellow solid

Solubility: DMSO to 20 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	75.77	5.3	14.73
Found	75.4	5.29	14.69

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Product Information

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

Description:

DMH-1 is a selective inhibitor of bone morphogenic protein (BMP) type-I receptor activin receptor-like kinase 2 (ALK2) receptor (IC_{50} = 108 nM or 12.6 nM in in vitro kinase assays). DMH-1 exhibits 6- and 19-fold selectivity for ALK-2 over ALK-1 and ALK-3, respectively, and no significant inhibition of AMPK, ALK5, KDR (VEGFR-2) or PDGFRβ receptors. DMH-1 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). DMH-1 suppresses lung cancer cell proliferation, migration, invasion in vitro and reduces... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

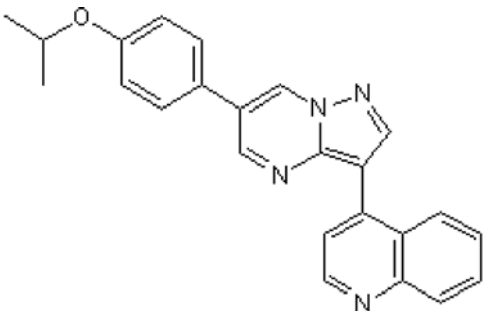
Batch Molecular Formula: $C_{24}H_{20}N_4O$

Batch Molecular Weight: 380.44

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 20 mM

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:

Guan *et al* (2022) Chemical reprogramming of human somatic cells to pluripotent stem cells. Nature ***605*** 325. PMID: 35418683.

Jung *et al* (2018) *In vitro* and *in vivo* imaging and tracking of intestinal organoids from human induced pluripotent stem cells. FASEB J. ***32*** 111. PMID: 28855280.

Sheng *et al* (2015) DMH1 (4-[6-(4-isopropoxyphenyl)pyrazolo[1,5-a]pyrimidin-3-yl]quinoline) inhibits chemotherapeutic drug-induced autophagy. Acta Pharmacol.Sinica ***5*** 330. PMID: 26579463.

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