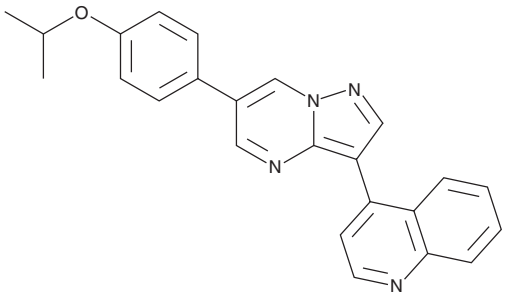
PRODUCT INFORMATION

DMH1

Item No. 16679

CAS Registry No.:	1206711-16-1
Formal Name:	4-[6-[4-(1-methylethoxy)phenyl] pyrazolo[1,5-a]pyrimidin-3-yl]-quinoline
Synonyms:	BMP Inhibitor II, DorsoMorphin Homolog 1, VU036482
MF:	$C_{24}H_{20}N_4O$
FW:	380.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 230, 279, 320 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DMH1 is supplied as a crystalline solid. A stock solution may be made by dissolving the DMH1 in the solvent of choice. DMH1 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of DMH1 in these solvents is approximately 1 and 20 mg/ml, respectively.

DMH1 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Bone morphogenetic proteins (BMP) are secreted signaling proteins, many of which are involved in various developmental processes, in addition to bone formation.[1] DMH1 is an analog of the non-selective BMP receptor inhibitor dorsomorphin (Item No. 11967) that potently inhibits the kinase activity of activin receptor-like kinase 2 (ALK2; IC_{50} = 13-108 nM).[2,3] It is much less effective at ALK4, ALK5, AMPK, KDR (VEGFR2) or PDGFRβ, although it inhibits ALK1 and ALK3 at nanomolar concentrations.[2,3] DMH1 is effective *in vivo*, as it disrupts dorsoventral development in zebrafish.[2] It also affects stem cell development, increasing cardiomyocyte progenitors and promoting neurogenesis.[4,5] DMH1 inhibits the growth of lung cancer cells, reducing tumor growth in a xenograft mouse model.[6]

References

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3. Mohedas, A.H., Xing, X., Armstrong, K.A., *et al. ACS Chem. Biol.* **8(6)**, 1291-1302 (2013).
4. Ao, A., Hao, J., Hopkins, C.R., *et al. PLoS One* **7(7)**, (2012).
5. Neely, M.D., Litt, M.J., Tidball, A.M., *et al. ACS Chem. Neurosci.* **3**, 482-491 (2012).
6. Hao, J., Lee, R., Chang, A., *et al. PLoS One* **9(3)**, 1-6 (2014).

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