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DATASHEET

Purmorphamine

Product overview

Name	Purmorphamine
Cat No	HB3412
Alternative names	Shh Signaling Antagonist VI
Biological action	Agonist
Purity	>98%
Description	Smo receptor agonist that activates the hedgehog pathway. Induces mesenchymal and iPSC differentiation.

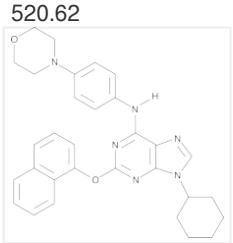
Biological Data

Biological description	Smo receptor agonist that activates the Hedgehog (Hh) signaling pathway to induce osteogenesis in multipotent mesenchymal progenitor cells. Also promotes differentiation of pre-adipocytes and myoblasts into osteoblasts when use in combination with BMP-4. Frequently used to differentiate pluripotent stem cells (e.g. ESCs and iPSCs) to neural stem cells and defined neuronal populations such as motor neurons and midbrain dopaminergic neurons. Protocols often use puromorphamine in combination with CHIR99021 (CHIR), SB431542 (SB), LDN193189 (LDN), XAV939, Y-27632, DAPT, BDNF, GDNF, retinoic acid (RA) and forskolin).

Solubility & Handling

Storage instructions	-20°C
Solubility overview	Soluble in DMSO (100mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	9-Cyclohexyl-*N*-[4-(4-morpholinyl)ph enyl]-2-(1-naphthalenyloxy)-9*H*-purin-6-amine
Molecular Weight	520.62
Chemical structure	
Molecular Formula	$C_{31}H_{32}N_6O_2$
CAS Number	483367-10-8
PubChem identifier	5284329
SMILES	C1(OC4=CC=CC5=C4C=CC=C5)=NC(NC3=CC=C(N6CCOCC6)C=C3)=C2C(N(C7CCCCC7)C=N2)=N1
InChi	InChI=1S/C31H32N6O2/c1-2-9-25(10-3-1)37-21-32-28-29(33-23-13-15-24(16-14-23)36-17-19-38-2

Chemical name	9-Cyclohexyl-*N*-[4-(4-morpholinyl)ph enyl]-2-(1-naphthalenyloxy)-9*H*-purin-6-amine
	0-18-36)34-31(35-30(28)37)39-27-12-6-8-22-7-4-5-11-26(22)27/h4-8,11-16,21,25H,1-3,9-10,17-20H
	2,(H,33,34,35)
InChiKey	FYBHCRQFSFYWPY-UHFFFAOYSA-N
MDL number	MFCD28988971

References

Directed differentiation of neural-stem cells and subtype-specific neurons from hESCs.

Hu BY et al (2010) Methods in molecular biology (Clifton, N.J.) 636

PubMedID 20336520

Purmorphamine activates the Hedgehog pathway by targeting Smoothened.

Sinha S et al (2006) Nature chemical biology 2

PubMedID 16408088

Purmorphamine induces osteogenesis by activation of the hedgehog signaling pathway.

Wu X et al (2004) Chemistry & biology 11

PubMedID 15380183

Purmorphamine increases DARPP-32 differentiation in human striatal neural stem cells through the Hedgehog pathway.

El-Akabawy G et al (2011) Stem cells and development 20

PubMedID 21345011