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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.

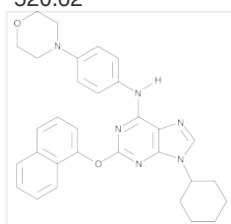
Frequently used to differentiate pluripotent stem cells (e.g. ESCs and iPSCs) to neural stem cells and defined neuronal populations such as motor neurons and midbrain dopaminergic neurons. Protocols often use purmorphamine in combination with [CHIR99021](#) (CHIR), [SB431542](#) (SB), [LDN193189](#) (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)phenyl]-2-(1-naphthalenyloxy)-9H-purin-6-amine
Molecular Weight 520.62
Chemical structure



Molecular Formula C₃₁H₃₂N₆O₂
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)36-17-19-38-20-18-36)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,1-3,9-10,17-20H2,(H,33,34,35)
InChiKey FYBHCRQFSFYWPY-UHFFFAOYSA-N

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

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