

Certificate of Analysis

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Product Name: Purmorphamine

Catalog No.: 4551

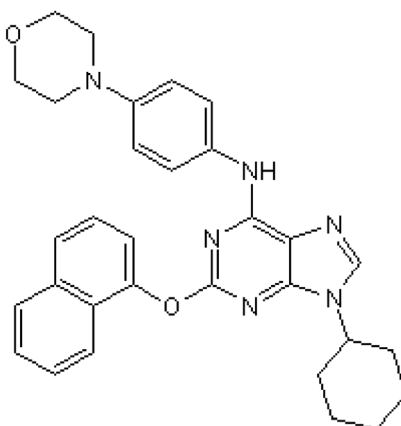
Batch No.: 7

CAS Number: 483367-10-8

IUPAC Name: 9-Cyclohexyl-*N*-[4-(4-morpholinyl)phenyl]-2-(1-naphthalenyloxy)-9*H*-purin-6-amine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₁H₃₂N₆O₂.
Batch Molecular Weight: 520.62
Physical Appearance: White solid
Solubility: DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	71.52	6.2	16.14
Found	70.61	6.25	15.76

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

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Description:

Purmorphamine is a smoothened (Smo) receptor agonist ($EC_{50} \sim 1 \mu M$) and activates the Hedgehog pathway. Purmorphamine induces osteogenesis in mouse mesenchymal progenitor cells (C3H10T1/2). When combined with BMP-4, Purmorphamine can transdifferentiate pre-adipocytes (3T3-L1) and myoblasts (C2C12) into osteoblasts. Purmorphamine induces differentiation of multipotent mesenchymal progenitor cells into osteoblasts, and of spinal motor neurons from pluripotent human stem cells, and protects dopaminergic neurons in a mouse model of Parkinson's disease.

Physical and Chemical Properties:

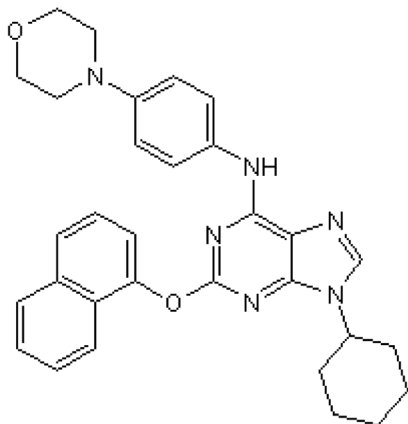
Batch Molecular Formula: $C_{31}H_{32}N_6O_2$.

Batch Molecular Weight: 520.62

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



Storage: Store at $-20^{\circ}C$

Solubility & Usage Info:

DMSO to 100 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 $45-60^{\circ}C$ water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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 $-20^{\circ}C$ or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Sinha *et al* (2006) Purmorphamine activates the Hedgehog pathway by targeting Smoothened. *Nat.Chem.Biol.* **2** 29. PMID: 16408088.

Sinha and Chen *et al* (2006) Purmorphamine activates the Hedgehog pathway by targeting Smoothened. *Nat.Chem.Biol.* **2** 29. PMID: 16408088.

Wu *et al* (2004) Purmorphamine induces osteogenesis by activation of the hedgehog signaling pathway. *Chem.Biol.* **11** 1229. PMID: 15380183.

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