Print Date: Mar 15th 2022

Certificate of Analysis

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Product Name: **Purmorphamine** **Catalog No.: 4551** **Batch No.: 3**

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: $C_{31}H_{32}N_6O_2$

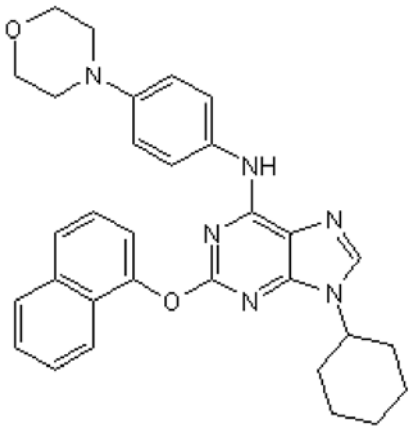
Batch Molecular Weight: 520.62

Physical Appearance: Green solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	71.52	6.19	16.14
Found	71.36	6.28	16.1

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Product Information

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Description:

Purmorphamine is a smoothened (Smo) receptor agonist (EC_{50} ~ 1 µM) 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:

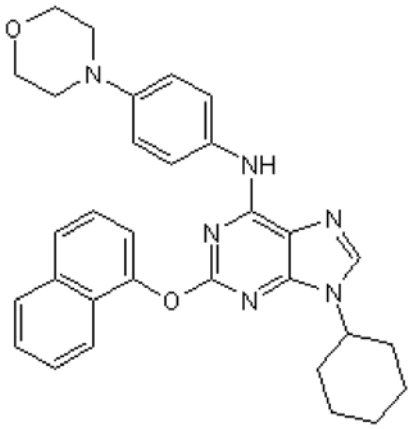
Batch Molecular Formula: $C_{31}H_{32}N_6O_2$

Batch Molecular Weight: 520.62

Physical Appearance: Green solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°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°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:

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.