

## Product Specification Sheet

**Product Name:** Purmorphamine

**Catalog Number:** C7976

### Technical information:

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

CAS #: 483367-10-8

Molecular Weight: 520.62

Purity: > 98%

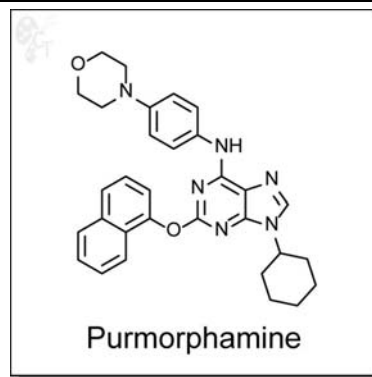
Appearance: White solid

Solubility: Soluble in DMSO up to 22 mM

Chemical Name: 9H-Purin-6-amine, 9-cyclohexyl-N-[4-(4-morpholinyl)phenyl]-2-(1-naphthalenyloxy)-

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.192mL of DMSO for each mg of Purmorphamine.
  - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

**Biological Activity:** Purmorphamine, a purine-based agonist of the Hedgehog signaling pathway, selectively induces osteogenesis in multipotent mesenchymal progenitor cells. In addition, purmorphamine regulates downstream targets such as Gli1 and Patched, which led to the discovery of its direct effect on Smoothened. [1, 3] Purmorphamine acts in contrast to known Hedgehog antagonists, such as cyclopamine and forskolin. In a luciferase-based assay, the EC50 of purmorphamine was found to be 0.5 uM. [1]

In an independent study on C3H10T1/2 cells, the EC50 of purmorphamine was found to be 1 uM, inducing a 50-fold increase in alkaline phosphatase (ALP). [2, 3]

- Reference:**
1. Wu et al., Purmorphamine induces osteogenesis by activation of the hedgehog signaling pathway. Chem. Biol. 2004, 11, 1229-1238. Pubmed ID: 15380183
  2. Wu et al., A small molecule with osteogenesis-inducing activity in multipotent mesenchymal progenitor cells. J. Am. Chem. Soc., 2002, 124, 14520-14521. Pubmed ID: 12465946
  3. Sinha et al., Purmorphamine activates the Hedgehog pathway by targeting Smoothened. Nat. Chem. Biol. 2006, 2(1), 29-30. Pubmed ID: 16408088

To reorder: <http://www.cellagentech.com/Purmorphamine/>

For Technical Support: [technical@cellagentech.com](mailto:technical@cellagentech.com)

*Chemicals are sold for research use only, not for clinical or diagnostic use.*