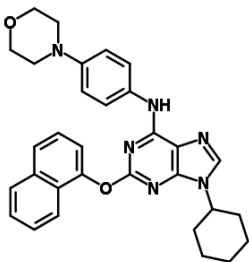




Product Specification Sheet

Product Name	Stemolecule™ Purmorphamine
Description	Purmorphamine is a small molecule that promotes the differentiation of human and murine mesenchymal progenitor cells into osteoblasts ^{1,2} . The mechanism of action study of Purmorphamine indicates that it is an agonist of Smoothed, a 7-transmembrane receptor of the hedgehog signaling pathway ^{3,4} . Purmorphamine can also be used to replace sonic hedgehog for the generation of motor neurons from human embryonic stem cells ⁵ .
Catalog Number	04-0009
Size	5 mg
Chemical Name	2-(1-Naphthoxy)-6-(4-morpholinoanilino)-9-cyclohexylpurine
Chemical Formula	C ₃₁ H ₃₂ N ₆ O ₂
Structure	
Molecular Weight	520.6
CAS Number	483367-10-8
Purity	Greater than 96% by HPLC analysis
Formulation	Pale beige solid
Solubility	For a 10 mM concentrated stock solution of Purmorphamine, reconstitute the compound by adding 960.4 µl of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For use in cell culture, warm the medium just prior to adding the reconstituted compound. Once the compound is added, mix and filter-sterilize the medium using a 0.2 µM low-protein binding filter. Purmorphamine is soluble in DMSO at 50 mM.
Storage and Stability	Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed.
Quality Control	The purity of Purmorphamine was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. No acute cytotoxicity was observed in mouse embryonic stem cells following a 6 hour exposure to 1 nM – 100 µM of Purmorphamine.

For research use only. Not for use in diagnostic procedures.

©Stemgent 2012. Unless otherwise noted, Stemgent, Stemgent Logo and all other trademarks are the property of Stemgent, Inc.

Stemgent, Inc | 51 Moulton Street, Cambridge, MA 02138 | www.stemgent.com



Product Specification Sheet

References

1. Wu, X., Ding, S., Ding, Q., Gray, N.S., and Shultz, P.G. (2002) A small molecule with osteogenesis-inducing activity in multipotent mesenchymal progenitor cells. *J Am Chem Soc.* 124: 14520-14521.
2. Beloti, M.M., Bellesini, L.S., and Rosa, A.L. (2005) Puromorphamine enhances osteogenic activity of human osteoblasts derived from bone marrow mesenchymal cells. *Cell Biol Int* 29: 537-541.
3. Wu, X., Walker, J., Zhang, J., Ding, S., and Schultz, P.G. (2004) Purmorphamine induces osteogenesis by activation of the hedgehog signaling pathway. *Chem Biol* 11: 1229-1238.
4. Sinha, S., and Chen, J.K. (2006) Purmorphamine activates the Hedgehog pathway by targeting Smoothened. *Nat Chem Biol* 2: 29-30.
5. Li, X.J., Hu, B.Y., Jones, S.A., Zhang, Y.S., Lavaute, T., Du, Z.W., and Zhang, S.C. (2008) Directed differentiation of ventral spinal progenitors and motor neurons from human embryonic stem cells by small molecules. *Stem Cells* 26: 886-893.

For research use only. Not for use in diagnostic procedures.

©Stemgent 2012. Unless otherwise noted, Stemgent, Stemgent Logo and all other trademarks are the property of Stemgent, Inc.

Stemgent, Inc | 51 Moulton Street, Cambridge, MA 02138 | www.stemgent.com