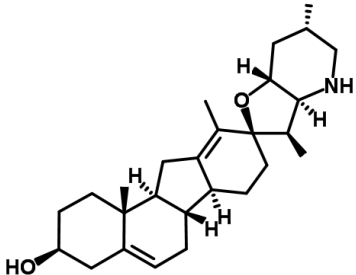




Product Specification Sheet

Product Name	Stemolecule™ Cyclopamine
Description	Stemolecule Cyclopamine is a steroid alkaloid isolated from the corn lily (<i>Veratrum californicum</i>) and originally identified as a teratogenic agent ¹ . Cyclopamine has since been identified as a specific inhibitor of hedgehog signaling by direct binding to the heptahelical bundle of Smoothened ² . Hedgehog signaling is involved in embryogenesis as well as cancer progression ³ . Cyclopamine has been utilized as a small molecule inducer of stem cell differentiation towards definitive endoderm pancreatic islet cells, as a modulator of cell proliferation, and as an anticancer drug ⁴⁻⁶ .
Catalog Number	04-0022
Size	2 mg
Alternate Name	(3S,3'R,3'aS,6'S,6aS,6bS,7'aR,9R,11aS,11bR)-3',6',10,11b tetramethylspiro[2,3,4,6,6a,6b,7,8,11,11a-decahydro-1H-benzo[a]fluorene-9,2'-3a,4,5,6,7,7a-hexahydro-3H-furo[3,2-b]pyridine]-3-ol
Chemical Formula	C ₂₇ H ₄₁ NO ₂
Structure	
Molecular Weight	411.62
CAS Number	4449-51-8
Purity	Greater than 99% by TLC analysis
Formulation	White crystalline solid or clear solid film at bottom of vial
Solubility	For a 10 mM concentrated stock solution of Cyclopamine, reconstitute the compound by adding 485.9 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 cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance to DMSO is less than 0.5%. This molecule is soluble in DMSO at 100 mM, ethanol at 49 mM, and methanol at 17 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 Cyclopamine was determined by TLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of Cyclopamine was tested on mouse embryonic stem cells.

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

©Stemgent 2011. Unless otherwise noted, Stemgent, Stemgent Logo and all other trademarks are the property of Stemgent, Inc.

Stemgent, 10575 Roselle St., San Diego, CA 92121 www.stemgent.com v2.0



Product Specification Sheet

References

1. Gaffield, W., Incardona, J.P., Kapur, R.P., and Roelink, H. (1999) A looking glass perspective: thalidomide and cyclopamine. *Cell Mol Biol (Noisy-le-grand)* 45: 579-588.
2. Chen, J.K., Taipale, J., Cooper, M.K., and Beachy, P.A. (2002) Inhibition of Hedgehog signaling by direct binding of cyclopamine to Smoothened. *Genes Dev* 16: 2743-2748.
3. Jiang, J., and Hui, C.C. (2008) Hedgehog signaling in development and cancer. *Dev Cell* 15: 801-812.
4. D'Amour, K.A., Bang, A.G., Eliazer, S., Kelly, O.G., Agulnick, A.D., Smart, N.G., Moorman, M.A., Kroon, E., Carpenter, M.K., and Baetge, E.E. (2006) Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells. *Nat Biotechnol* 24: 1392-1401.
5. Gallo, R., Grieco, F.A., Marselli, L., Ferretti, E., Gulino, A., Marchetti, P., and Dotta, F. (2008) Hedgehog signaling during expansion of human pancreatic islet-derived precursors. *Ann N Y Acad Sci* 1150: 43-45.
6. Xu, F.G., Ma, Q.Y., and Wang, Z. (2009) Blockade of hedgehog signaling pathway as a therapeutic strategy for pancreatic cancer. *Cancer Lett.* 283: 119-124.

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

©Stemgent 2011. Unless otherwise noted, Stemgent, Stemgent Logo and all other trademarks are the property of Stemgent, Inc.

Stemgent, 10575 Roselle St., San Diego, CA 92121 www.stemgent.com v2.0