



Product Specification Sheet

Product Name: Cyclopamine
Catalog Number: C2925-2 (powder)
C2925-2s (10mM in DMSO)
Package Size: 2 mg

Technical information:

Chemical Formula: C₂₇H₄₁NO₂

CAS #: 4449-51-8

Molecular Weight: 411.62

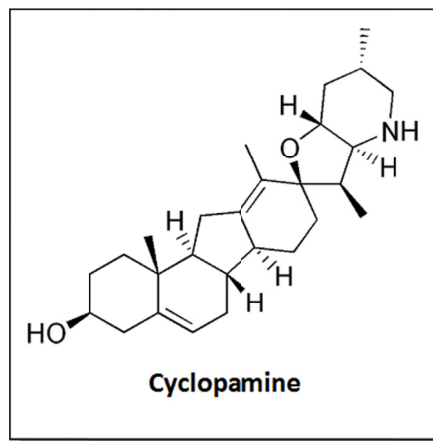
Purity: >98%

Formulation: white solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: (2'R,3S,3'R,3a'S,6aS,6bS,6'S,7a'R,11aS,11bR)-3',6',10,11b-tetramethyl-1,2,3,3a',4,4',5',6,6a,6b,6',7,7',7a',8,11,11a,11b-octadecahydro-3'H-spiro[benzo[a]fluorene-9,2'-furo[3,2-b]pyridin]-3-ol

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



- Handling:**
- For C2925-2 (powder), add 486 μ L of DMSO to make 10 mM solution.
 - For C2925-2s, before open the vial, centrifuge the vial at 500rpm x 1 min in a 50 mL conical tube to ensure full recovery of sample.

Biological Activity: Cyclopamine is a naturally-occurring chemical that belongs to the group of steroidal jerveratrum alkaloids, a teratogen isolated from the corn lily (*Veratrum californicum*). It is a specific Inhibitor of hedgehog (Hh) signaling, likely via direct inhibition of Smoothed. Because hedgehog signaling pathway is involved in embryogenesis and cancer progression, Cyclopamine could be used as the inducer of stem cell differentiation towards definitive endoderm pancreatic islet cells, and as a modulator controlling cell proliferation, and as a drug to kill stem-like cancer cells and block tumor engraftment.

- Reference:**
1. Chen JK et al. Inhibition of Hedgehog signaling by direct binding of cyclopamine to Smoothed. *Genes Dev.* (2002); 16(21):2743-8.
 2. Jiang J. et al. Hedgehog signaling in development and cancer. *Dev Cell.* (2008) 15(6):801-12.
 3. D'Amour KA et al. Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells. *Nat Biotechnol.* (2006). 24(11): 1392-401.
 4. Gallo R. et al. Hedgehog signaling during expansion of human pancreatic islet-derived precursors. *Ann N Y Acad Sci.* (2008) Dec;1150:43-5



5. Matthew P. Scott. Cancer: A twist in a hedgehog's tale. Nature(2003) 425, 780-782.
 6. Eli E. Bar, et al. Cyclopamine-Mediated Hedgehog Pathway Inhibition Depletes Stem-Like Cancer Cells in Glioblastoma. Stem Cells.(2007) 25(10): 2524–2533.
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