

## Certificate of Analysis

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**Product Name:** Cyclopamine

**Catalog No.:** 1623

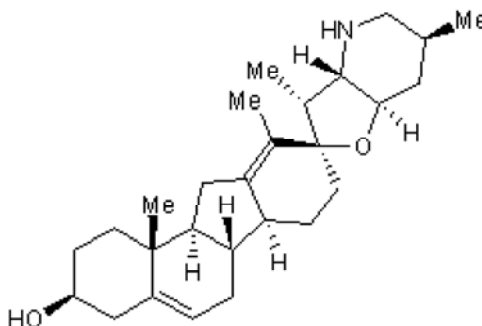
**Batch No.:** 6

**CAS Number:** 4449-51-8

**IUPAC Name:** (2'*R*,3*S*,3'*R*,3'*aS*,6'*S*,6*aS*,6*bS*,7'*aR*,11*aS*,11*bR*)-1,2,3,3'*a*,4,4',5',6,6',6*a*,6*b*,7,7',7'*a*,8,11,11*a*,11*b*-Octadecahydro-3',6',10,11*b*-tetramethylspiro[9*H*-benzo[*a*]fluorene-9,2'(3'*H*)-furo[3,2-*b*]pyridin]-3-ol

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>27</sub>H<sub>41</sub>NO<sub>2</sub>  
**Batch Molecular Weight:** 411.63  
**Physical Appearance:** White solid  
**Solubility:** ethanol to 5 mM  
**Storage:** Desiccate at -20°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 99.1% purity  
**Mass Spectrum:** Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**IUPAC Name:** (2'R,3S,3'R,3'aS,6'S,6aS,6bS,7'aR,11aS,11bR)-1,2,3,3'a,4,4',5',6,6',6a,6b,7,7',7'a,8,11,11a,11b-Octadecahydro-3',6',10,11b-tetramethylspiro[9H-benzo[a]fluorene-9,2'(3'H)-furo[3,2-b]pyridin]-3-ol

**Description:**

Inhibitor of hedgehog (Hh) signaling, likely via direct inhibition of Smoothened, the accessory protein to the putative Hh receptor Patched. Anticancer and teratogenic in vivo. Depletes stem-like cancer cells in glioblastoma and blocks tumor engraftment. Can also be used to induce differentiation of human embryonic stem cells (hESCs) into hormone-expressing endocrine cells.

**Physical and Chemical Properties:**

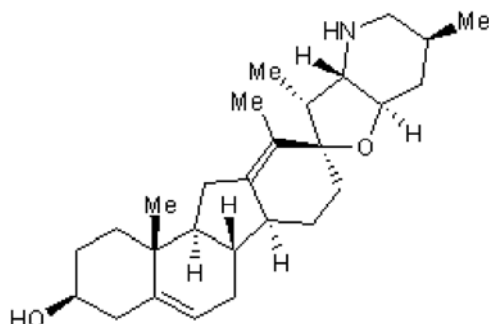
Batch Molecular Formula: C<sub>27</sub>H<sub>41</sub>NO<sub>2</sub>

Batch Molecular Weight: 411.63

Physical Appearance: White solid

**Minimum Purity:** ≥97%

**Batch Molecular Structure:**



**Storage:** Desiccate at -20°C

**Solubility & Usage Info:**

ethanol to 5 mM

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

**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:**

**Bar et al** (2007) Cyclopamine-mediated hedgehog pathway inhibition depletes stem-like cancer cells in glioblastoma. *Stem Cells* **25** 2524. PMID: 17628016.

**D'Amour et al** (2006) Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells. *Nat.Biotechnol.* **24** 1392. PMID: 17053790.

**Scott** (2003) Cancer: a twist in a hedgehog's tale. *Nature* **425** 780. PMID: 14574396.

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