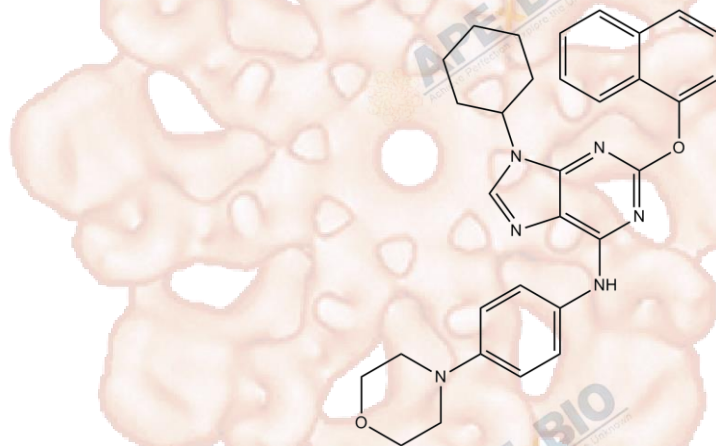


Product Data Sheet

Purmorphamine

Cat. No.:	A8228
CAS No.:	483367-10-8
Formula:	C31H32N6O2
M.Wt:	520.62
Synonyms:	
Target:	Stem Cell
Pathway:	Smoothened
Storage:	Store at -20°C



Solvent & Solubility

insoluble in H₂O; ≥ 1.82 mg/mL in EtOH with ultrasonic; ≥ 8.68 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	1.9208 mL	9.6039 mL	19.2079 mL
	5 mM	0.3842 mL	1.9208 mL	3.8416 mL
	10 mM	0.1921 mL	0.9604 mL	1.9208 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

Hedgehog agonist

IC₅₀ & Target

~ 1.5 μ M (Smoothened)

In Vitro

Cell Viability Assay

Cell Line:

Mesenchymal stem cells (MSCs)

Preparation method:

The solubility of this compound in DMSO is <10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	14 d; 2 μ M
	Applications:	Modulation of Hh signaling by purmorphamine in hMSCs was evaluated at 7 and 14 days through the gene expression of the membrane receptors SMO and PTCH1, and the transcriptional factors GLI1 and GLI2. Gene expression of SMO was up-regulated at 7 days ($P \leq 0.05$) and down-regulated at 14 days ($P \leq 0.05$) by purmorphamine. PTCH1 expression was increased by purmorphamine at 7 days ($P \leq 0.05$) and not affected at 14 days ($P \leq 0.05$). Purmorphamine up-regulated the expression of GLI1 and GLI2 at 7 ($P \leq 0.05$) and 14 days ($P \leq 0.05$).
In Vivo	Animal experiment	
	Animal models:	Normal male Wistar rats
	Dosage form:	5 μ M; s.c.
	Applications:	Subcutaneous transplantation of human mesenchymal stem cell-based constructs into rats. According to the histology sections, labeled cells were present inside the scaffolds. Based on real-time PCR results, it has been shown the up-regulation of human osteoblast genes, ALP, osteocalcin, Runx-2, and collagen I in transplanted cell constructs.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1] Oliveira F S, Bellesini L S, Defino H L A, et al. Hedgehog signaling and osteoblast gene expression are regulated by purmorphamine in human mesenchymal stem cells[J]. Journal of cellular biochemistry, 2012, 113(1): 204-208.
- [2] Faghihi F, Baghaban Eslaminejad M, Nekookar A, et al. The effect of purmorphamine and sirolimus on osteogenic differentiation of human bone marrow-derived mesenchymal stem cells[J]. Biomedicine & Pharmacotherapy, 2013, 67(1): 31-38.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable

under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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