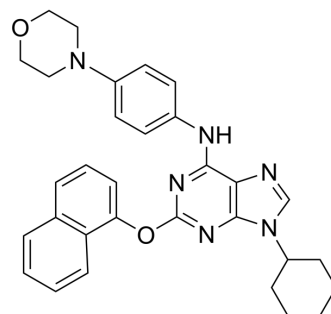


Purmorphamine (GMP)

Cat. No.:	HY-15108G
CAS No.:	483367-10-8
Molecular Formula:	C ₃₁ H ₃₂ N ₆ O ₂
Molecular Weight:	520.62
Target:	Smo
Pathway:	Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Purmorphamine (GMP) is Purmorphamine (HY-15108) produced by using GMP guidelines. GMP small molecules work appropriately as an auxiliary reagent for cell therapy manufacture. Purmorphamine is a smoothed/Smo receptor agonist with an EC ₅₀ of 1 μM ^[1] .
In Vitro	<p>Purmorphamine (GMP) (1.5 μM, 1 week) can generate embryoid bodies (EBs) from human iPS cells (hiPS2) and hESCs (HSF1) [1].</p> <p>Purmorphamine (GMP) (1.5 μM) converts hPSCs to NKX2-1 positive MGE cells^[2].</p> <p>Purmorphamine (GMP) (2 μM, day 28-35) promotes ventralization of the brain spheroids in differentiation process from hiPSCs^[3].</p> <p>Purmorphamine (GMP) (1 μM) together with retinoic acid (RA, 2 μM) promotes hiPSC differentiation into functional neural tissue, indicated by the expression of neuronal marker β-tubulin III (βT-III)^[4].</p> <p>Purmorphamine (GMP) (day5-7) induces hESCs differentiation into dopaminergic (DA) neurons^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- Mil Med Res. 2020 Nov 1;7(1):52.
- Mil Med Res. 2020 Sep 6;7(1):42.
- J Exp Clin Cancer Res. 2018 Nov 27;37(1):287.
- Pharmacol Res. 2021 Jan 26;105460.
- Life Sci. 2023 Jul 29;329:121990.

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REFERENCES

- [1]. Karumbayaram S, et al. Directed differentiation of human-induced pluripotent stem cells generates active motor neurons. *Stem Cells*. 2009 Apr;27(4):806-11.
- [2]. Hu Y, et al. Directed differentiation of basal forebrain cholinergic neurons from human pluripotent stem cells. *J Neurosci Methods*. 2016 Jun 15;266:42-9.

[3]. Hua T, et al. Phenotypic, metabolic, and biogenesis properties of human stem cell-derived cerebellar spheroids. *Sci Rep.* 2022 Jul 27;12(1):12880.

[4]. Sharma R, et al. 3D Bioprinting Pluripotent Stem Cell Derived Neural Tissues Using a Novel Fibrin Bioink Containing Drug Releasing Microspheres. *Front Bioeng Biotechnol.* 2020 Feb 11;8:57.

[5]. Sundberg M, et al. Improved cell therapy protocols for Parkinson's disease based on differentiation efficiency and safety of hESC-, hiPSC-, and non-human primate iPSC-derived dopaminergic neurons. *Stem Cells.* 2013 Aug;31(8):1548-62.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA