



# SZABO SCANDIC

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Laborgeräte & Service

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### SZABO-SCANDIC HandelsgmbH

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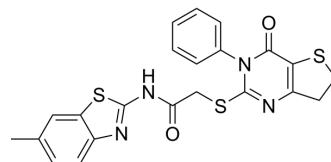
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## IWP-2 (GMP)

Cat. No.:	HY-13912G
CAS No.:	686770-61-6
Molecular Formula:	C <sub>22</sub> H <sub>18</sub> N <sub>4</sub> O <sub>2</sub> S <sub>3</sub>
Molecular Weight:	466.6
Target:	Wnt
Pathway:	Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	IWP-2 (GMP) is <a href="#">IWP-2</a> (HY-13912) produced by using GMP guidelines. GMP small molecules work appropriately as an auxiliary reagent for cell therapy manufacture. IWP-2 is an inhibitor of Wnt processing and secretion with an IC <sub>50</sub> of 27 nM. IWP-2 targets the membrane-bound O-acyltransferase porcupine (Porcn) and blocks Wnt ligand palmitoylation <sup>[1]</sup> .								
<b>IC<sub>50</sub> &amp; Target</b>	IC <sub>50</sub> : 27 nM (Wnt) <sup>[1]</sup>								
<b>In Vitro</b>	<p>IWP-2 (GMP) (2 μM, in the first 4 days of Stage IV induction medium) reprograms human somatic cells to pluripotent stem cells<sup>[1]</sup>.</p> <p>IWP-2 (GMP) (5 μM, day 3 to 5) induces cardiac differentiation of hiPSCs<sup>[2]</sup>.</p> <p>IWP-2 (GMP) (5 μM, day 1 to 3) increasing the expression of cardiac progenitors and cardiac genes (MYL2, TNNT3, and TNNT2) in hiPSCs<sup>[3]</sup>.</p> <p>IWP-2 (GMP) (5 μM, day 5-7) together with PIP-S2 induces cardiac mesoderm differentiates into functional cardiomyocytes<sup>[4]</sup>.</p> <p>IWP-2 (GMP) (5 μM, treated at day 3) induces cardiomyocyte differentiation when applied following a pretreatment with <a href="#">Laduviglusib (GMP)</a> (HY-10182G)<sup>[5]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>RT-PCR<sup>[3]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>hiPSCs</td> </tr> <tr> <td>Concentration:</td> <td>5 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>day 1 to 3</td> </tr> <tr> <td>Result:</td> <td>Reduced the expression of anti-cardiac mesoderm genes, and increased the expression of cardiac progenitors and cardiac genes (MYL2, TNNT3, and TNNT2).</td> </tr> </table>	Cell Line:	hiPSCs	Concentration:	5 μM	Incubation Time:	day 1 to 3	Result:	Reduced the expression of anti-cardiac mesoderm genes, and increased the expression of cardiac progenitors and cardiac genes (MYL2, TNNT3, and TNNT2).
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### CUSTOMER VALIDATION

- Adv Mater. 2021 Oct 10;e21104829.
- Dev Cell. 2020 Dec 21;55(6):679-694.e11.

- Clin Sci. 2023 Jan 13;137(1):109-127.
- Stem Cells Transl Med. 2021 May;10(5):743-755.
- Biochem Pharmacol. 2019 Nov;169:113608.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

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- [1]. Guan J et al. Chemical reprogramming of human somatic cells to pluripotent stem cells. *Nature*. 2022;605(7909):325-331.
- [2]. Hamad S, et al. Generation of human induced pluripotent stem cell-derived cardiomyocytes in 2D monolayer and scalable 3D suspension bioreactor cultures with reduced batch-to-batch variations. *Theranostics*. 2019 Sep 25;9(24):7222-7238.
- [3]. Le MNT, et al. Auto/paracrine factors and early Wnt inhibition promote cardiomyocyte differentiation from human induced pluripotent stem cells at initial low cell density. *Sci Rep*. 2021 Nov 2;11(1):21426.
- [4]. Taniguchi J, et al. A synthetic DNA-binding inhibitor of SOX2 guides human induced pluripotent stem cells to differentiate into mesoderm. *Nucleic Acids Res*. 2017 Sep 19;45(16):9219-9228.
- [5]. Lian X, Zhang J, et al. Directed cardiomyocyte differentiation from human pluripotent stem cells by modulating Wnt/ $\beta$ -catenin signaling under fully defined conditions. *Nat Protoc*. 2013 Jan;8(1):162-75.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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