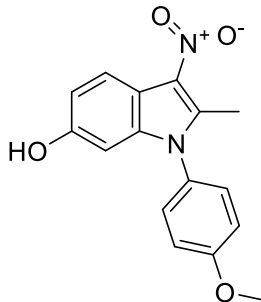


Product data sheet



MedKoo Cat#: 555860 Name: ID-8 inhibitor CAS: 147591-46-6 Chemical Formula: C ₁₆ H ₁₄ N ₂ O ₄ Exact Mass: 298.0954 Molecular Weight: 298.298		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

ID-8 is a DYRK inhibitor, and sustains embryonic stem cell self-renewal in long-term culture.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	33.3	111.63
DMF:PBS (pH 7.2) (1:2)	0.33	1.11
DMSO	44.0	147.50
Ethanol	2.0	6.70

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.35 mL	16.76 mL	33.52 mL
5 mM	0.67 mL	3.35 mL	6.70 mL
10 mM	0.34 mL	1.68 mL	3.35 mL
50 mM	0.07 mL	0.34 mL	0.67 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Monteiro MB, Ramm S, Chandrasekaran V, Boswell SA, Weber EJ, Lidberg KA, Kelly EJ, Vaidya VS. A High-Throughput Screen Identifies DYRK1A Inhibitor ID-8 that Stimulates Human Kidney Tubular Epithelial Cell Proliferation. J Am Soc Nephrol. 2018 Dec;29(12):2820-2833. doi: 10.1681/ASN.2018040392. Epub 2018 Oct 25. PMID: 30361326; PMCID: PMC6287872.
2. Hasegawa K, Yasuda SY, Teo JL, Nguyen C, McMillan M, Hsieh CL, Suemori H, Nakatsuji N, Yamamoto M, Miyabayashi T, Lutzko C, Pera MF, Kahn M. Wnt signaling orchestration with a small molecule DYRK inhibitor provides long-term xeno-free human pluripotent cell expansion. Stem Cells Transl Med. 2012 Jan;1(1):18-28. doi: 10.5966/sctm.2011-0033. Epub 2011 Dec 7. PMID: 23197636; PMCID: PMC3727690.

In vivo study

TBD

7. Bioactivity

Biological target:

Product data sheet



ID-8 is an inhibitor of dual-specificity tyrosine phosphorylation-regulated kinase (DYRK). ID-8 sustains embryonic stem cell (ESC) self-renewal and pluripotency. ID-8 enhances Wnt-mediated hESC survival and proliferation via inhibition of DYRKs.

In vitro activity

As expected, levels of the CBP/ β -catenin complex were significantly enhanced in ID-8-treated cells compared with control and in particular to ICG-001-treated cells. A similar result was obtained in DYRK-knockdown cells (Fig. 2I, 2J). This study concludes that ID-8, through inhibition of DYRK family members, supports maintenance of the undifferentiated state in the presence of Wnt by modulating Wnt/ β -catenin signaling and enhancing the CBP/ β -catenin association in hESCs, similar to the mechanism observed in mESCs treated with IQ-1 and Wnt.

Reference: Stem Cells Transl Med. 2012 Jan;1(1):18-28. <https://pubmed.ncbi.nlm.nih.gov/23197636/>

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.