

IWR-1

## Chemical Properties

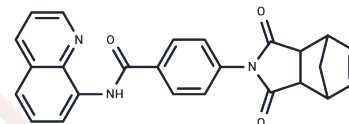
CAS No. : 1127442-82-3

Formula: C<sub>25</sub>H<sub>19</sub>N<sub>3</sub>O<sub>3</sub>

Molecular Weight: 409.44

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	IWR-1 (IWR-1-endo) is a tankyrase inhibitor that targets the Wnt/ $\beta$ -catenin pathway, with an IC <sub>50</sub> of 180 nM. IWR-1 contributes to the activation of TCF/LEF and the expression of downstream targets of the Wnt/ $\beta$ -catenin pathway. IWR-1 promotes $\beta$ -catenin phosphorylation by enhancing the stability of the Axin-mediated disassembly complex. IWR-1 can be used in research on diseases such as cancer and psoriasis.
Targets(IC50)	Wnt/beta-catenin
In vitro	<b>Methods:</b> Human colorectal cancer cell lines HCT116 and HT29 were treated with IWR-1 at concentrations of 5, 10, 20, and 50 $\mu$ M for 24 and 48 hours. Cell proliferation was assessed using the MTT/CCK-8 assay. <b>Results:</b> IWR-1 exhibited concentration- and time-dependent inhibition of cell proliferation. [1]
In vivo	<b>Methods:</b> Psoriasiform skin inflammation was induced in Balb/c mice by applying imiquimod cream to the dorsal skin daily for 5 consecutive days. On days 1, 3, and 5, mice received subcutaneous injections of IWR-1 (10 mg/kg) or IL-36 $\gamma$ (2 $\mu$ g/mouse). After the fifth day of treatment, mice were euthanized, and dorsal skin tissue was harvested for subsequent analysis. <b>Results:</b> IL-36 $\gamma$ treatment significantly exacerbated IMQ-induced PASI scores, while IWR-1 treatment significantly suppressed IL-36 $\gamma$ -induced increases in PASI scores. [2]

## Solubility Information

Solubility	DMSO: 85.8 mg/mL (209.55 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.1 mg/mL (10.01 mM), Suspension. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.4424 mL	12.2118 mL	24.4236 mL
5 mM	0.4885 mL	2.4424 mL	4.8847 mL
10 mM	0.2442 mL	1.2212 mL	2.4424 mL
50 mM	0.0488 mL	0.2442 mL	0.4885 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Lee SC, Kim OH, Lee SK, Kim SJ. IWR-1 inhibits epithelial-mesenchymal transition of colorectal cancer cells through suppressing Wnt/ $\beta$ -catenin signaling as well as survivin expression. *Oncotarget*. 2015 Sep 29;6(29):27146-59.

Yan Z, Ruan B, Wang S, et al. RNA-binding Protein QKI Inhibits Osteogenic Differentiation Via Suppressing Wnt Pathway. *Archives of Medical Research*. 2023: 102853.

Wang WM, Gao YM, Zheng XF, Jin HZ. IWR-1 attenuates the promotional effect of IL-36 $\gamma$  in a mouse model of psoriasis. *BMC Immunol*. 2024 Nov 23;25(1):78.

Xu Y L, Sun G M, Zhang J M, et al. Regulating the Wnt/ $\beta$ -catenin Signaling Pathway Promotes Repigmentation in Vitiligo Using Fire Needle Therapy. *Dermatologic Therapy*. 2024, 2024.

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