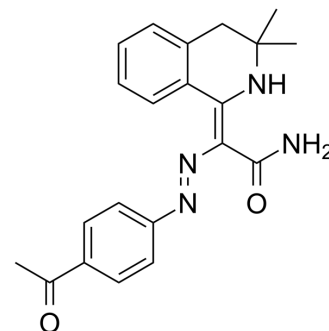


IQ 1

Cat. No.:	HY-10593		
CAS No.:	331001-62-8		
Molecular Formula:	C ₂₁ H ₂₂ N ₄ O ₂		
Molecular Weight:	362.42		
Target:	Wnt		
Pathway:	Stem Cell/Wnt		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 33 mg/mL (91.05 mM)
 * "≥" means soluble, but saturation unknown.

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.7592 mL	13.7961 mL	27.5923 mL
	5 mM	0.5518 mL	2.7592 mL	5.5185 mL
	10 mM	0.2759 mL	1.3796 mL	2.7592 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 1.67 mg/mL (4.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

IQ 1 is a Wnt/β-catenin/CBP signalling sustainer. IQ 1 maintains long-term expansion of Wnt/β-catenin-driven mouse embryonic stem cells (ESCs) and prevents spontaneous differentiation by enhancing β-catenin/CBP-mediated transcription and preventing conversion to β-catenin/p300-mediated transcription. IQ-1 regulates Wnt signalling by interacting with PR72/130. IQ 1 can be used in study of ESCs expansion^[1].

In Vitro

IQ-1 (1.10, 3.48, 11.04 mM; 7 days) maintains the undifferentiated state of ESCs^[1].
 IQ-1 (0.28, 1.10, 2.76, 11.04 mM; 21 h) maintains murine ESC self-renewal independently of LIF^[1].
 IQ-1 Binds the PR72/130 Subunit of the Serine/Threonine Phosphatase PP2A in P19 cells^[1].
 IQ-1 (10 μM; 24 h) modulates Wnt signaling via interaction with PR72/130 in P19 cells^[1].
 IQ-1 (10 μM; 24 h) indirectly decreases the phosphorylation of p300 Ser-89 and thereby the β-Catenin/p300 interaction^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[1]

Cell Line:	Embryonic stem cells (ESCs)
Concentration:	1.10, 3.48, 11.04 mM
Incubation Time:	7 days
Result:	Dose dependently increased alkaline phosphatase activity, in media containing 15% FCS without the addition of exogenous leukemia inhibitory factor (LIF). Maintained SSEA-1 (undifferentiated ESC marker) expression dose-dependently.

RT-PCR^[1]

Cell Line:	Embryonic stem cells (ESCs)
Concentration:	0.28, 1.10, 2.76, 11.04 mM
Incubation Time:	21 h
Result:	Significantly increased and maintained Nanog expression in culture. (Nanog: a divergent homeoprotein pluripotency sustaining factor for ESCs that drives ESC self-renewal). Exhibited the maintenance of murine ESC pluripotency were independent of the LIF/Stat3 pathway.

Western Blot Analysis^[1]

Cell Line:	P19 cells
Concentration:	10 μ M
Incubation Time:	24 h
Result:	Significantly reduced coimmunoprecipitation of PR72/130 with both PP2A and Nkd. Binded to PR72/130 subunit of PP2A, and disrupted the PP2A/Nkd complex. Decreased the affinity of the β -catenin/p300 interaction and increases β -catenin/CBP usage by negatively regulating the phosphorylation of p300 Ser-89.

REFERENCES

[1]. Miyabayashi T, et al. Wnt/beta-catenin/CBP signaling maintains long-term murine embryonic stem cell pluripotency. Proc Natl Acad Sci U S A. 2007 Mar 27;104(13):5668-73.

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

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