

# Small Molecules

IQ-1

WNT pathway activator; Inhibits protein phosphatase PP2A

Catalog # 72772  
72774

5 mg  
25 mg



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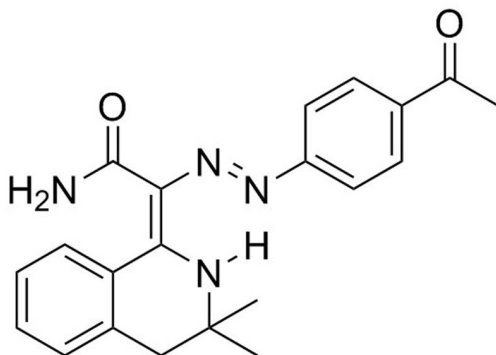
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## Product Description

IQ-1 selectively inhibits p300-dependent  $\beta$ -catenin signaling. IQ-1 is a cell-permeable tetrahydroisoquinolinylidene that binds to the PR72/130 subunit of protein phosphatase PP2A, leading to decreased phosphorylation of the  $\beta$ -catenin coactivator, p300, and decreased affinity of p300 for  $\beta$ -catenin. IQ-1 thereby inhibits  $\beta$ -catenin/p300 interaction while increasing  $\beta$ -catenin/CBP-mediated transcription (Miyabayashi et al.).

Molecular Name:	IQ-1
Alternative Names:	Not applicable
CAS Number:	331001-62-8
Chemical Formula:	C <sub>21</sub> H <sub>22</sub> N <sub>4</sub> O <sub>2</sub>
Molecular Weight:	362.4 g/mol
Purity:	≥ 98%
Chemical Name:	2-[2-(4-acetylphenyl)diazenyl]-2-(3,4-dihydro-3,3-dimethyl-1(2H)-isoquinolinylidene)-acetamide
Structure:	



## Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· Absolute ethanol ≤ 25 mM · DMSO ≤ 65 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 276 $\mu$ L of fresh DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### MAINTENANCE AND SELF-RENEWAL

- Used with Wnt3a to maintain pluripotency of mouse embryonic stem (ES) cells in the absence of mouse embryonic fibroblasts, serum, or exogenous leukemia inhibitory factor (LIF) (Miyabayashi et al.).
- Enhances expansion of mouse ES-derived cardiovascular progenitor cells (Schenke-Layland et al.).

### CANCER RESEARCH

- Induces the conversion of cancer cells to a side population of cancer stem-like cells with high levels of drug resistance and tumorigenicity (He et al.).

## References

- He K et al. (2014) Cancer cells acquire a drug resistant, highly tumorigenic, cancer stem-like phenotype through modulation of the PI3K/Akt/ $\beta$ -catenin/CBP pathway. *Int J Cancer* 134(1): 43–54.
- Miyabayashi T et al. (2007) Wnt/ $\beta$ -catenin/CBP signaling maintains long-term murine embryonic stem cell pluripotency. *Proc Natl Acad Sci USA* 104(13): 5668–73.
- Schenke-Layland K et al. (2011) Recapitulation of the embryonic cardiovascular progenitor cell niche. *Biomaterials* 32(11): 2748–56.

## Related Small Molecules

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**This product is hazardous. Please refer to the Safety Data Sheet (SDS).**

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