**Product Description**

IWR-1-endo is an inhibitor of WNT signaling. WNT proteins are small secreted proteins that are active in embryonic development, tissue homeostasis (Clevers), and tumorigenesis (Polakis; Reya & Clevers). WNT proteins bind to receptors on the cell surface, initiating a signaling cascade that leads to β-catenin accumulation and downstream gene transcription. IWR-1-endo is a potent inhibitor of the WNT response, blocking a cell-based WNT/β-catenin pathway reporter response with an IC$_{50}$ value of 180 nM (Chen et al.). It inhibits WNT-induced accumulation of β-catenin, through stabilization of the destruction complex member AXIN2 (Chen et al.). The IWR-1-exo diastereomer exhibits much less activity against the WNT/β-catenin pathway and has been used as a control (Chen et al.).

### Molecular Name
- IWR-1-endo

### Alternative Names
- Not applicable

### CAS Number
- 1127442-82-3

### Chemical Formula
- C$_{25}$H$_{26}$N$_{3}$O$_{8}$

### Molecular Weight
- 409.4 g/mol

### Purity
- ≥ 98%

### Chemical Name
- 4-[(3aR,4S,7R,7aS)-1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4,7-methano-2H-isooindol-2-yl]-N-8-quinolinyl-benzamide

### Structure

![Structure Diagram]

### 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
- DMSO ≤ 45 mM
- For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 2.44 mL 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
· Promotes self-renewal and maintains pluripotency of human embryonic stem cells and mouse Epi-stem cells when used in combination with CHIR99021 (Catalog #72052; Kim et al.).

DIFFERENTIATION
· Promotes differentiation of cardiomyocytes from human pluripotent stem cells (PSCs) that have been induced to mesoderm by addition of Activin A (Catalog #78001) and/or BMP-4 (Catalog #02524) (Ren et al.; Willems et al.).
· Induces the differentiation of human PSC-derived alveolar epithelial type II (AETII) to AETI cells (Ghaedi et al.).

References

Related Small Molecules
For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.