

Product Name: CHIR 98014

Catalog No.: 6695

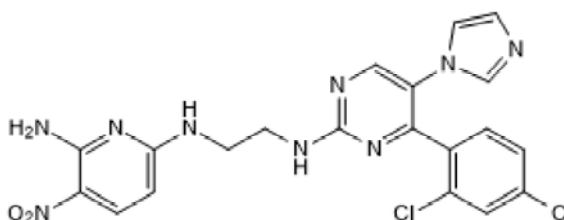
Batch No.: 2

CAS Number: 252935-94-7

IUPAC Name: *N*⁶-[2-[[4-(2,4-Dichlorophenyl)-5-(1*H*-imidazol-1-yl)-2-pyrimidinyl]amino]ethyl]-3-nitro-2,6-pyridinediamine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₀H₁₇Cl₂N₉O₂·¼H₂O
Batch Molecular Weight: 490.81
Physical Appearance: Yellow solid
Solubility: DMSO to 20 mM with gentle warming
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	48.94	3.59	25.68
Found	48.7	3.69	25.56

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

CHIR 98014 is a highly potent and selective GSK-3 inhibitor (IC₅₀ values are 0.58 and 0.65 nM for the β and α isoforms, respectively). Exhibits >500-fold selectivity for GSK-3β over a range of other kinases. Improves insulin sensitivity of muscle strips from diabetic rats *in vitro* and decreases insulin and glucose levels in the oral glucose tolerance test *in vivo*. Activates Wnt signaling in human adipose stem cells (hASC) and promotes the production of definitive endoderm. Has been used in protocols to derive epicardial cells from hPSCs.

Physical and Chemical Properties:

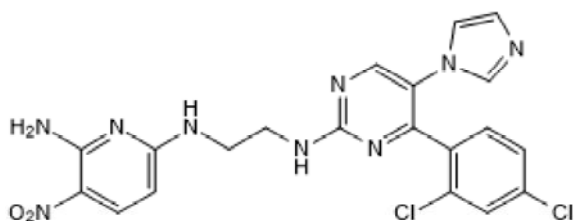
Batch Molecular Formula: C₂₀H₁₇Cl₂N₉O₂·¼H₂O

Batch Molecular Weight: 490.81

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Huang *et al* (2017) Activation of Wnt/β-catenin signalling via GSK3 inhibitors direct differentiation of human adipose stem cells into functional hepatocytes. *Sci.Rep.* **7** 40716. PMID: 28094799.

Paik and Wu *et al* (2017) Simply derived epicardial cells. *Nat.Biomed.Eng.* **1**. PMID: 29354320.

Ring *et al* (2003) Selective glycogen synthase kinase 3 inhibitors potentiate Ins activation of glucose transport and utilization *in vitro* and *in vivo*. *Diabetes* **52** 588. PMID: 12606497.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 20 mM with gentle warming

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956