

Product Name: CHIR 99021

Catalog No.: 4423

Batch No.: 17

CAS Number: 252917-06-9

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₁₈Cl₂N₈·¼H₂O

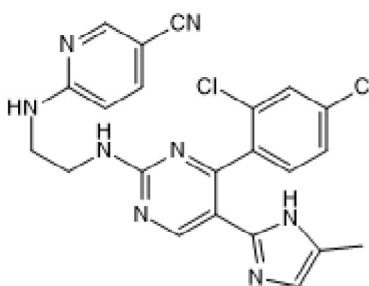
Batch Molecular Weight: 469.84

Physical Appearance: Off-white solid

Solubility: DMSO to 20 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

| | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 56.24 | 3.97 | 23.85 |
| Found | 56.38 | 3.82 | 23.42 |

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

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

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Description:

CHIR 99021 is a potent and highly selective inhibitor of glycogen synthase kinase 3 (GSK-3) (IC₅₀ values are 6.7 and 10 nM for GSK-3β and GSK-3α respectively). Acts as Wnt activator. Exhibits >500-fold selectivity for GSK-3 over closely related kinases; also displays >800-fold selectivity against 45 additional enzymes and receptors. In combination with the irreversible inhibitor of LSD1 (Cat. No. 3852), CHIR 99021 enables reprogramming of mouse embryonic fibroblasts, transduced by Oct4 and Klf4 only, into iPSCs. Enhances mouse and human ESC self-renewal when used in combination with PD 0325901 (Cat. No. 4192). It prom... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

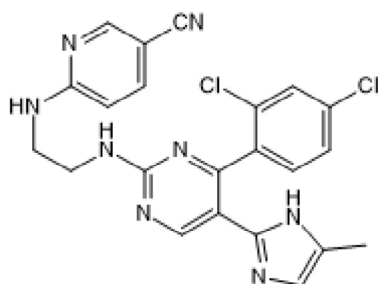
Batch Molecular Formula: C₂₂H₁₈Cl₂N₈·¼H₂O

Batch Molecular Weight: 469.84

Physical Appearance: Off-white solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Schafer et al (2023) An *in vivo* neuroimmune organoid model to study human microglia phenotypes. *Cell* **186** 1222. PMID: 37172564.

Noor et al (2019) 3D Printing of Personalized Thick and Perfusable Cardiac Patches and Hearts. *Adv.Sci.(Weinh)* **6** 1900344. PMID: 31179230.

Wimmer et al (2019) Human blood vessel organoids as a model of diabetic vasculopathy. *Nature* **565** 505. PMID: 30651639.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 20 mM

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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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