

**Product Name:** CHIR 99021

**Catalog No.:** 4423

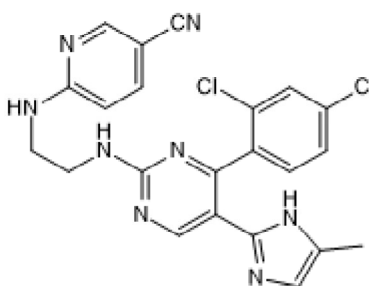
**Batch No.:** 21

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:** C<sub>22</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>8</sub>.  
**Batch Molecular Weight:** 465.34  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 20 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	56.78	3.9	24.08
Found	56.32	3.97	23.92

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

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**Description:**

CHIR 99021 is a potent and highly selective inhibitor of glycogen synthase kinase 3 (GSK-3) (IC<sub>50</sub> 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:**

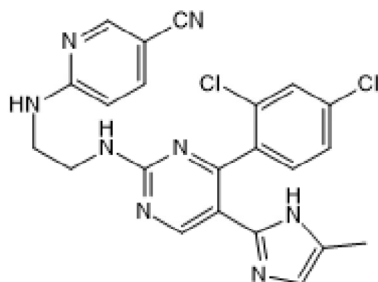
Batch Molecular Formula: C<sub>22</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>8</sub>.

Batch Molecular Weight: 465.34

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**References:**

**Ng et al (2024)** Long-term engrafting multilineage hematopoietic cells differentiated from human induced pluripotent stem cells. *Nat.Biotechnol.*. PMID: 39223325.

**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.

**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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