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## DATASHEET

CHIR 99021

### Product overview

|                          |   |
|--------------------------|---|
| <b>Name</b>              | CHIR 99021  |
| <b>Cat No</b>            | HB1261  |
| <b>Alternative names</b> | Laduviglusib, CT99021, CHIR99021  |
| <b>Biological action</b> | Inhibitor   |
| <b>Purity</b>            | >98%  |
| <b>Description</b>       | Potent, selective GSK3 inhibitor and Wnt signaling activator. Commonly used in organoid production and involved in reprogramming MEFs to iPSCs and fibroblasts to mature neurons. |

### Images



### Biological Data

|                               |  |
|-------------------------------|--|
| <b>Biological description</b> | <p>Potent, selective and ATP-competitive GSK-3 inhibitor (<math>IC_{50}</math> values are 6.7 and 10 nM for GSK-3<math>\beta</math> and GSK-3<math>\alpha</math> respectively).</p> <p>Wnt signaling activator which is commonly used with <a href="#">PD 032501</a> as part of the 2i inhibitor combination.</p> <p>Exhibits no cross reactivity against CDKs and exhibits &gt;500-fold selectivity for GSK3 over other protein kinases and &gt;800-fold selectivity over &gt;20 other enzymes and receptors.</p> <p>Promotes self-renewal of embryonic stem cells and enables mouse embryonic fibroblast (MEF) reprogramming into iPSCs.</p> <p>Commonly used in organoid production and also involved in reprogramming of fibroblasts to mature neurons.</p> <p>Water soluble <a href="#">CHIR 99021 trihydrochloride</a> also available.</p> |
|-------------------------------|--|

### Solubility & Handling

Storage instructions  
Solubility overview  
Important

-20 °C  
Soluble in DMSO (20mM)  
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

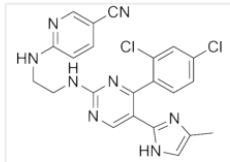
## Chemical Data

Chemical name

6-[[2-[[4-(2,4-Dichlorophenyl)-5-(5-methyl-1*H*-imidazol-2-yl)-2-pyrimidinyl]amino]ethyl]amino]-3-pyridinecarbonitrile  
465.34

Molecular Weight

Chemical structure



Molecular Formula

C<sub>22</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>8</sub>

CAS Number

252917-06-9

PubChem identifier

9956119

SMILES

CC1=CN=C(N1)C2=CN=C(N=C2C3=C(C=C(C=C3)Cl)Cl)NCCNC4=NC=C(C=C4)C#N

InChi

InChI=1S/C22H18Cl2N8/c1-13-10-29-21(31-13)17-12-30-22(32-20(17)16-4-3-15(23)8-18(16)24)27-7-6-26-19-5-2-14(9-25)11-28-19/h2-5,8,10-12H,6-7H2,1H3,(H,26,28)(H,29,31)(H,27,30,32)

InChiKey

AQGNHMOJWBZFQQ-UHFFFAOYSA-N

MDL number

MFCD11846251

## References

**The roles of Notch3 on the cell proliferation and apoptosis induced by CHIR99021 in NSCLC cell lines: a functional link between Wnt and Notch signaling pathways.**

Li C *et al* (2013) PLoS One 8(12)

PubMedID

24367688

**Generation of human-induced pluripotent stem cells in the absence of exogenous Sox2.**

Li W *et al* (2009) Stem cells 27(12)

PubMedID

19839055

**Pleiotropy of glycogen synthase kinase-3 inhibition by CHIR99021 promotes self-renewal of embryonic stem cells from refractory mouse strains.**

Ye S *et al* (2012) PLoS One 7(4)

PubMedID

22540008