

CAT NO. 27-H76

CHIR99021

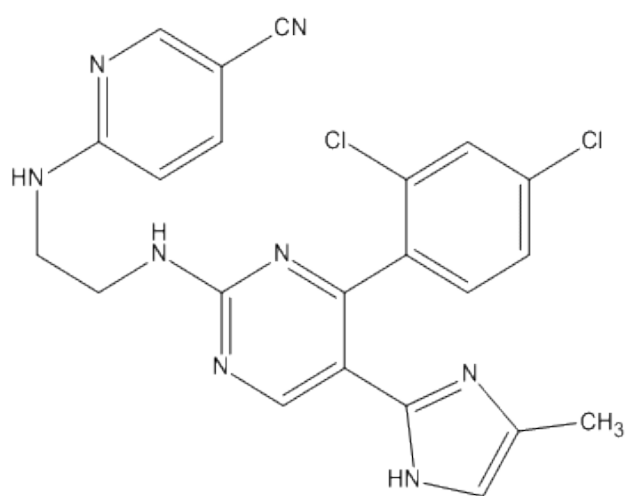


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For research purposes only

CHIR99021 is the most selective inhibitor of glycogen synthase kinase 3 $\beta$  (GSK3 $\beta$ ). CHIR99021 does not show cross-reactivity against cyclin-dependent kinases (CDKs) with a 350 fold selectivity toward GSK3 $\beta$  compared to CDKs with a  $K_i$  of <10nM in vitro. CHIR99021 has been shown in long term expansion of murine embryonic stem cells in conjunction with MEK/MAPK inhibitor PD184352 and fibroblast growth factor receptor (FGFR) inhibitor SU5402.

## TECHNICAL INFORMATION



**Other Names:** CT99021, 6-((2-((4-(2,4-Dichlorophenyl)-5-(4-methyl-1H-imidazol-2-yl)pyrimidin-2-yl)amino)ethyl)amino)nicotinonitrile

**Chemical Formula:** C<sub>22</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>8</sub>

**CAS Number:** 252917-06-09

**Molecular Weight:** 465.34

**Purity:** >98% by HPLC

**IC<sub>50</sub>**= 6.7nM

**Appearance:** Off White Solid

**Solubility:** DMSO (100mM)

## STORAGE AND HANDLING

**Storage:** Store at 4°C and protected from light. Following reconstitution, store aliquots at -20°C.

**Stability:** Stock solutions stable at -20°C for up to 2 years.

**Shipping Conditions:** Shipped at room temperature.

## PRODUCT USE

Soluble in DMSO (100mM). For a 10 mM solution, reconstitute by adding 430 $\mu$ l of DMSO to the entire contents of the vial. For most cells, the maximum tolerance to DMSO is <0.5%. Incubate in a 37°C water bath for 5 minutes if a precipitate is observed.

When used in combination with PD0325901, CHIR99021 has been shown to sustain ES cell self-renewal.

## REFERENCES

1. Tighe A. et al. (2007). GSK-3 inhibitors induce chromosome instability. BMC Cell Biol. 8:34.
2. Ying Q et al., Nature, 53: 519-523. (2008).
2. Ying Q. et al. (2008) The ground state of embryonic stem cell self renewal. Nature. 453: 519-523.
3. Finley D. et al. (2004). Glycogen Synthase Kinase-3 regulates IGFBP-1 gene transcription through the Thymine-rich Insulin Response Element. BMC Mol. Biol. 5:15.