**Product Specification Sheet**

**Product Name**
Stemolecule™ CHIR99021

**Description**
The aminopyrimidine CHIR99021 is the most selective inhibitor of glycogen synthase kinase 3β (GSK-3β) reported to date. Unlike other potent inhibitors of GSK-3 such as alsterpaullone, kenpaullone, SB214763, and SB415286, CHIR99201 does not exhibit cross-reactivity against cyclin-dependent kinases (CDKs) and shows a 350-fold selectivity toward GSK-3β compared to CDKs. Ying et al. showed that along with the elimination of differentiation-inducing signaling from mitogen-activated protein kinases, using CHIR99021 to block the activity of GSK3β enabled the self-renewal of embryonic stem cells.

**Catalog Number**
04-0004

**Size**
2 mg

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

**Chemical Formula**
\( C_{22}H_{18}Cl_2N_8 \)

**Molecular Weight**
465.34

**CAS Number**
252917-06-9

**Purity**
Greater than 95% by HPLC analysis

**Formulation**
Off-white solid

**Solubility**
For a 10 mM concentrated stock solution of CHIR99021, reconstitute the compound by adding 429.8 μl of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance to DMSO is less than 0.5%. This molecule is soluble in DMSO at 100 mM.

**Storage and Stability**
Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed.

**Quality Control**
The purity of CHIR99021 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of CHIR99021 was tested on mouse embryonic stem cells.
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References


