

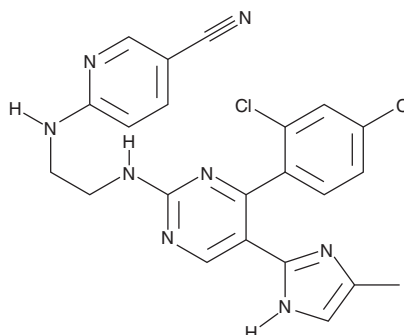
PRODUCT INFORMATION



CHIR99021

Item No. 13122

CAS Registry No.: 252917-06-9
Formal Name: 6-[[2-[[4-(2,4-dichlorophenyl)-5-(5-methyl-1H-imidazol-2-yl)-2-pyrimidinyl]amino]ethyl]amino]-3-pyridinecarbonitrile
Synonym: CT 99021
MF: C₂₂H₁₈Cl₂N₈
FW: 465.3
Purity: ≥95%
UV/Vis.: λ_{max}: 279 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CHIR99021 is supplied as a crystalline solid. A stock solution may be made by dissolving the CHIR99021 in the solvent of choice, which should be purged with an inert gas. CHIR99021 is soluble in the organic solvent DMSO at a concentration of approximately 2.5 mg/ml.

Description

CHIR99021 is an aminopyrimidine derivative that inhibits GSK3α and GSK3β with IC₅₀ values of 10 and 6.7 nM, respectively.¹ When tested against twenty different protein kinases, this inhibitor shows greater than 500-fold selectivity for GSK3. CHIR99021 activates glycogen synthesis in CHO-IR cells (EC₅₀ = 0.763 μM) and in isolated type 1 diabetic rat skeletal muscle. A single oral dose (30 mg/kg) of CHIR99021 enhances *in vivo* glucose metabolism in a rodent model of type 2 diabetes. CHIR99021 has also been shown to induce the reprogramming of murine and human somatic cells into stem cells.^{2,3}

References

1. Ring, D.B., Johnson, K.W., Henriksen, E.J., *et al.* Selective glycogen synthase kinase 3 inhibitors potentiate insulin activation of glucose transport and utilization *in vitro* and *in vivo*. *Diabetes* **52(3)**, 588-95 (2003).
2. Li, W., Zhou, H., Abujarour, R., *et al.* Generation of human-induced pluripotent stem cells in the absence of exogenous Sox2. *Stem Cells* **27(12)**, 2992-3000 (2009).
3. Ying, Q.L., Wray, J., Nichols, J., *et al.* The ground state of embryonic stem cell self-renewal. *Nature* **453(7194)**, 519-524 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM