JAK-2/3-IN-3

Cat. No.: HY-151285

CAS No.: 2242031-31-6

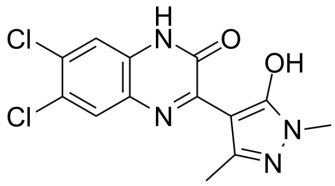
Molecular Formula: $C_{13}H_{10}Cl_2N_4O_2$

Molecular Weight: 325.15

Target: Apoptosis; JAK

Pathway: Apoptosis; Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

JAK-2-/3-IN-3 (compound ST4j) is a potent JAK2/3 inhibitor with IC_{50}s of 13.00 and 14.86 nM for JAK2 and JAK3, respectively. JAK-2-/3-IN-3 inhibits autophosphorylation of JAK2 and induces apoptosis in a dose- and time-dependent manner. JAK-2-/3-IN-3 can be used in studies of lymph derived diseases and leukemia[1].

IC_{50} & Target

JAK2	JAK3
13.00 nM (IC_{50})	14.86 nM (IC_{50})

In Vitro

JAK-2/3-IN-3 (0-100 μM; 72 h) specifically inhibits human erythroleukemia cells with low toxicity to the normal cells[1].
JAK-2/3-IN-3 inhibits human erythroleukemia TF1 cell growth via the JAK2/STAT5 signaling pathway[1].
JAK-2/3-IN-3 (15.53 μM; 24, 48, 72 h) induces cytotoxicity via apoptosis in a time-dependent manner in TF1 cells[1].
JAK-2/3-IN-3 (IC_{25}, IC_{50}, IC_{75}; 24 h) induces cytotoxicity via apoptosis in a dose-dependent manner in TF1 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	TF1 cells
Concentration:	15.53 μM
Incubation Time:	24, 48, 72 h
Result:	Increased cells apoptotic by ⊠20%, ⊠40% and ⊠70%, after 24-, 48- and 72-h incubations, respectively. Increased cells apoptotic by ⊠15%, 20%, and 30% with concentration of IC_{25}, IC_{50} and IC_{75}, respectively.

Cell Cytotoxicity Assay[1]

Cell Line:	TF1, HEL, Vero and HepG2 cells
Concentration:	0-100 μM
Incubation Time:	72 h
Result:	Inhibited growth of TF1 and HEL cells, with IC_{50}s of 15.53 and 17.90 μM.

	Showed low toxic to normal Vero cells and HepG2 cells (IC_{50} of >100 μM in Vero cells and of >50 μM in HepG2 cells).

REFERENCES

[1]. Sanachai K, et al. Discovery of JAK2/3 Inhibitors from Quinoxalinone-Containing Compounds. ACS Omega, 2022.

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