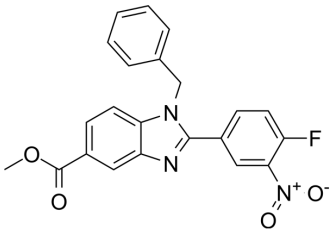
TJ08

Cat. No.:	HY-152135
CAS No.:	2924274-19-9
Molecular Formula:	$C_{22}H_{16}FN_3O_4$
Molecular Weight:	405.38
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

TJ08, a 1,2,5-trisubstituted benzimidazole derivative, efficiently induces G1/S phase arrest and promotes apoptosis in various cancer cells. TJ08 is an anticancer agent[1].

In Vitro

TJ08 (0-20 μM;48 and 72 h) has antiproliferative effect on various cancer cell lines with IC_{50}s ranging from 1.88 to 3.82 μM[1].
TJ08 (1-10 μM; 24 h) instigates apoptosis by permuting mitochondrial membrane potential[1].
TJ08 (1-10 μM; 24 h) instigates S phase arrest and abrogates cancer cell progression[1].
TJ08 (1-10 μM; 24 h) causes the upregulation of cleaved caspase and downregulation of antiapoptotic BCl_2 proteins[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Human leukemic cancer cells (Jurkat, K562, and Molt4), human cervical cancer cells (HeLa), human colorectal carcinoma cells (HCT116), and human pancreatic ductal adenocarcinoma (MIAPaCa-2)
Concentration:	0-20 μM
Incubation Time:	48 and 72 h
Result:	Showed effective against various cells with IC_{50}s of 1.88 μM, 1.89 μM, 2.05 μM, 2.11 μM, 3.04 μM, and 3.82 μM against Jurkat, K562, MOLT-4, HeLa, HCT116, and MIA PaCa-2 cancer cell lines, respectively.

Apoptosis Analysis[1]

Cell Line:	Jurkat cells
Concentration:	1, 5, 10 μM
Incubation Time:	24 h
Result:	Induced cell death by apoptosis, not by necrosis, in a concentration-dependent manner.

Cell Cycle Analysis[1]

Cell Line:	Jurkat cells

Concentration:	1, 5, 10 μM
Incubation Time:	24 h
Result:	Cauesd the accumulation of cells at the S phase in a concentration-dependent manner followed by increased accumulation of a sub-G1 population of cells.

Western Blot Analysis[1]

Cell Line:	Jurkat cells
Concentration:	1, 5, 10 μM
Incubation Time:	24 h
Result:	Caused the upregulation of cleaved caspase and downregulation of antiapoptotic BCl_2 proteins.

REFERENCES

[1]. Jagadeesha Gullahalli Swathantraiah, et al. Novel 1,2,5-Trisubstituted Benzimidazoles Potentiate Apoptosis by Mitochondrial Dysfunction in Panel of Cancer Cells. ACS Omega. 2022 Dec 6;7(50):46955-46971.

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