NF-κB-IN-1

Cat. No.: HY-138537

CAS No.: 1227098-15-8

Molecular Formula: $C_{31}H_{30}O_8$

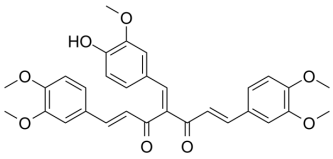
Molecular Weight: 530.57

Target: IKK

Pathway: NF-κB

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (94.24 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8848 mL	9.4238 mL	18.8477 mL
	5 mM	0.3770 mL	1.8848 mL	3.7695 mL
	10 mM	0.1885 mL	0.9424 mL	1.8848 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NF-κB-IN-1, a 4-arylidene crucumin analogue, is a potent NF-κB signaling pathway inhibitor. NF-κB-IN-1 directly inhibits IKK to block NF-κB activation. NF-κB-IN-1 effectively inhibits the viability of lung cancer cells and attenuates the clonogenic activity of A549 cells[1].

IC_{50} & Target

IKK[1]

In Vitro

NF-κB-IN-1 (compound 17) (0.001-100 μM; 72 h) inhibits the growth of A549, H1944, H460 and H157 cells, with GI_{50}s of 0.72, 0.07, 0.13, and 0.16 μM, respectively[1].

NF-κB-IN-1 (0.5-25 μM; pretreated for 30 min or 4 h) potently blocks the IκB phosphorylation and degradation in A549 cells[1].

NF-κB-IN-1 (0.1-100 μM; pretreated for 30 min) dose-dependently inhibits the TNFα-induced nuclear translocation of NF-κB in A549 cells, with an IC_{50}s of 1.0 μM[1].

NF-κB-IN-1 (0.1-0.4 μM; 9 d) inhibits lung cancer clonogenic activity[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	A549, H1944, H460 and H157 cells
Concentration:	0.001, 0.01, 0.1, 1, 10, 100 μM
Incubation Time:	72 hours
Result:	Decreased viability of lung adenocarcinoma cells A549 and H1944, quamous cell carcinoma cells H157, and large cell carcinoma cells H460 in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	A549 cells
Concentration:	0.5, 1.0, 2.5, 5.0, 10.0, 25.0 μM
Incubation Time:	Pretreated for 30 min or 4 h
Result:	Blocked IκB phosphorylation, with an IC_{50} of 2.8 μM. Blocked IκB degradation in a dose-dependent manner.

CUSTOMER VALIDATION

- Cell Commun Signal. 2023 May 1;21(1):86.
- Cancer Med. 2023 Jun 7.

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REFERENCES

[1]. Qiu X, et, al. Synthesis and identification of new 4-arylidene curcumin analogues as potential anticancer agents targeting nuclear factor-κB signaling pathway. J Med Chem. 2010 Dec 9;53(23):8260-73.

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