BC-DXI-843

Cat. No.: HY-136431

CAS No.: 2421117-98-6

Molecular Formula: $C_{28}H_{26}N_4O_4S_2$

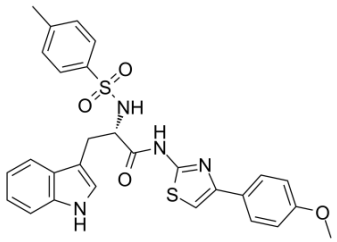
Molecular Weight: 546.66

Target: Others

Pathway: Others

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (457.32 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8293 mL	9.1465 mL	18.2929 mL
	5 mM	0.3659 mL	1.8293 mL	3.6586 mL
	10 mM	0.1829 mL	0.9146 mL	1.8293 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: ≥ 2.08 mg/mL (3.80 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BC-DXI-843 is a potent and specific AIMP2-DX2 inhibitor with an IC_{50} of 0.92 μM, more than 100-fold selectivity over AIMP2 (IC_{50} >100 μM) in a luciferase assay. BC-DXI-843 acts as a promising lead targeting AIMP2-DX2 in lung cancer[1].

IC_{50} & Target

IC50: 0.92 μM (AIMP2-DX2), IC50: >100 μM (AIMP2)[1]

In Vitro

BC-DXI-843 (0.0316-31.6 μM; 72 hours) suppresses cancer cell proliferation in a DX2-dependent manner. The EC_{50} in A549 cells is 1.20 μM, which is similar to the IC_{50} for inhibition of DX2. However, no inhibition of WI-26 cells is observed, suggesting that BC-DXI-843 specifically reduces the viability of cancer cells[1].

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

Cell Proliferation Assay[1]

Cell Line:	A549 cancer cells and WI-26 normal cells

Concentration:	0.0316, 0.1, 0.316, 1, 3.16, 10, 31.6 μM
Incubation Time:	72 hours
Result:	The EC_{50} in A549 cells was 1.20 μM. No inhibition of WI-26 cells was observed.

In Vivo

BC-DXI-843 (50 mg/kg; intraperitoneally administered; every other day for 15 days) demonstrates in vivo efficacy in a tumor xenograft mouse model (H460 cells)[1].

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Animal Model:	7-week-old female BALB/cSLC-nu/nu mice bearing H460 cells xenograft[1]
Dosage:	50 mg/kg
Administration:	Intraperitoneally administered; every other day for 15 days
Result:	The embedded tumor volume gradually declined after BC-DXI-843administration, but no changes in body weight were observed. The weight of the excised tumors after sacrifice had decreased in mice.

REFERENCES

[1]. Aneesh Sivaraman, et al. Synthesis and Structure-Activity Relationships of Arylsulfonamides as AIMP2-DX2 Inhibitors for the Development of a Novel Anticancer Therapy. J Med Chem. 2020 May 28;63(10):5139-5158.

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