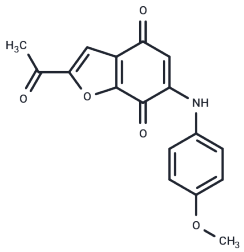
Data Sheet (Cat.No.T60765)

TargetMol

STAT3-IN-10

Chemical Properties



CAS No. : 2499491-04-0

Formula: C17H13NO5

Molecular Weight: 311.29

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	STAT3-IN-10 (A11) is an inhibitor of STAT3 that directly binds to STAT3 SH2 domain, inhibits tumor cell growth and induces apoptosis in cancer cells (IC 50 = 5.18 μM) [1].
Targets(IC50)	Apoptosis,Others,STAT
In vitro	STAT3-IN-10 (A11) has been evaluated for its anticancer efficacy, demonstrated by IC50 values of 0.67 μM, 0.77 μM, and 1.24 μM against breast cancer cell lines MDA-MB-231 and MDA-MB-468, and human liver carcinoma cell line HepG2, respectively, over a 48-hour period. It directly interacts with the STAT3 SH2 domain, inhibiting STAT3 phosphorylation and the activity of downstream proteins while maintaining selectivity against the tumor suppressor STAT1. Furthermore, at concentrations ranging from 0 to 4 μM over a 24-hour exposure, STAT3-IN-10 (A11) promotes apoptosis in cancer cells and induces a significant S phase arrest specifically in MDA-MB-231 cells. Analysis methods used include Cell Viability Assay and Western Blot Analysis, which showed a decrease in STAT3-Y705 phosphorylation and reduced expression of target genes like C-Myc and Cyclin D1, with minimal impact on STAT1 levels. Apoptosis and Cell Cycle Analysis confirmed induction of apoptosis and cell cycle arrest in a dose-dependent manner.
In vivo	STAT3-IN-10 (A11) administered intraperitoneally (IP) at doses of 5 and 10 mg/kg once daily for 21 days effectively inhibited the growth of human xenograft tumors in vivo, as demonstrated in a study using five-week-old female BALB/c nude mice (16–18g) implanted with human breast cancer cells MDA-MB-231. The treatment did not result in significant body weight loss in the treated mice and also reduced the levels of phosphorylated STAT3 (p-STAT3) in the tumor tissues.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2124 mL	16.0622 mL	32.1244 mL
5 mM	0.6425 mL	3.2124 mL	6.4249 mL
10 mM	0.3212 mL	1.6062 mL	3.2124 mL
50 mM	0.0642 mL	0.3212 mL	0.6425 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.