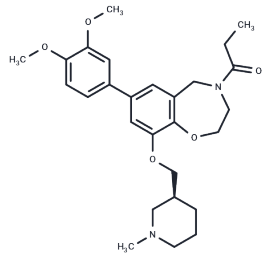
Data Sheet (Cat.No.T3969)

TargetMol

I-CBP112

Chemical Properties



CAS No. : 1640282-31-0

Formula: C27H36N2O5

Molecular Weight: 468.59

Appearance: no data available

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	I-CBP112 is a specific and potent acetyl-lysine competitive protein-protein interaction inhibitor targeting the CBP/p300 bromodomains.
Targets(IC50)	Epigenetic Reader Domain,Histone Acetyltransferase
In vitro	Exposure to I-CBP112 in human and mouse leukemic cell lines significantly reduces colony formation and initiates cellular differentiation, without notable cytotoxic effects. When primary cells from the BioMAP panel were treated with I-CBP112, it elicited a distinctive cytokine and marker protein expression profile. Importantly, I-CBP112 markedly increases acetylation levels at histone H3K18 and H3K23 sites by p300, tripling H3K18ac levels. This compound not only enhances CBP-mediated acetylation at these locations but also at H4K5. The half-maximal effective concentration (EC50) for I-CBP112's action on p300 and CBP to increase H3K18 acetylation is approximately 2 μM.
In vivo	I-CBP112 markedly diminishes the leukemia-initiating potential of MLL-AF9+ AML cells in a dose-dependent manner [both in vitro and in vivo].
Kinase Assay	TGase 2 from guinea pig liver is preincubated for 10 min with various concentrations of GK13 or GK921 in 0.1 mL of reaction buffer, with or without 10 mM CaCl2, followed by the addition of 0.4 mL of substrate solution containing 2
Cell Research	I-CBP112 is dissolved in DMSO and diluted with appropriate medium before use. Cells (6000 KG1a and 13000 LNCaP cells/well) are plated in 96-well flat-bottom plates approximately 24 h prior to drug treatment. After 24 h, 10–20% fetal bovine serum-containing medium is replaced with 2.5% serum medium, and cells are treated with I-CBP112 in 0.18% DMSO; 0.18% DMSO is shown to have negligible cell growth effects under the conditions used in our experiments. After being exposed to I-CBP112 for 66 h, cells are subjected to a final concentration of 0.476% [3H]thymidine per well and allowed to proliferate for an additional 6 h (exposure to I-CBP112 for a total of 72 h). Cells are harvested, and the counts of 3H in each well are taken relative to those treated with vehicle alone to quantify the effect of the ligand on proliferation[1].

Solubility Information

Solubility	DMSO: 55 mg/mL (117.37 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1341 mL	10.6703 mL	21.3406 mL
5 mM	0.4268 mL	2.1341 mL	4.2681 mL
10 mM	0.2134 mL	1.067 mL	2.1341 mL
50 mM	0.0427 mL	0.2134 mL	0.4268 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.

Reference

Zucconi BE, et al. Modulation of p300/CBP Acetylation of Nucleosomes by Bromodomain LigandI-CBP112. Biochemistry. 2016 Jul 12;55(27):3727-34.

Zhang D, Ma B, Liu D, et al.Discovery of a peptide proteolysis-targeting chimera (PROTAC) drug of p300 for prostate cancer therapy.EBioMedicine.2024, 105.

Picaud S, et al. Generation of a Selective Small Molecule Inhibitor of the CBP/p300 Bromodomain for Leukemia Therapy. Cancer Res. 2015 Dec 1;75(23):5106-19.