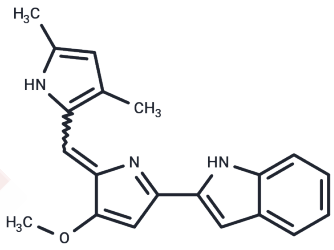
Data Sheet (Cat.No.T41278)

TargetMol

Obatoclax

Chemical Properties



CAS No. : 803712-67-6

Formula: C20H19N3O

Molecular Weight: 317.38

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	Obatoclax (GX15-070), a pan-BCL-2 family proteins inhibitor and BH3 mimetic, exhibits a binding affinity (K_i) of 220 nM for BCL-2. It promotes autophagy-dependent cell death and cyclin D1 degradation via the proteasome. Additionally, Obatoclax demonstrates anti-cancer properties and broad-spectrum antiparasitic activity.
Targets(IC50)	Bcl-2 Family,Others,Parasite,Autophagy
In vitro	Obatoclax (GX15-070) inhibits several BCL-2 family proteins, with Ki values around 1-7 μM, demonstrating its potency in apoptosis regulation. In colorectal cancer cell lines (HCT116, HT-29, LoVo), it significantly reduces cell numbers in a dose- and time-specific manner, with the IC50 for cell proliferation at 72 hours being 25.85, 40.69, and 40.01 nM, respectively. At 400 nM for 24 hours, Obatoclax induces autophagy in OSCC cells and provokes an increase in G1-phase cell populations at doses of 50-200 nM for 24 hours. Similarly, it decreases cyclin D1 levels significantly at these concentrations. It leads to both phosphorylation-dependent and -independent cyclin D1 degradation in HCT116 and LoVo cells, with a notable decline in p-Cyclin D (T286) levels after treatment. Furthermore, Obatoclax inhibits GSK3β, activates p38 MAPK without significantly affecting ERK1/2 activity in HT-29 cells, and effectively inhibits the clonogenic potential of oral cancer cells across a range of concentrations (50-450 nM), underscoring its broader impact on cancer cell survival and proliferation mechanisms.
In vivo	Obatoclax (GX15-070; administered at doses of 1.15-5 mg/kg intravenously through the lateral tail vein for five consecutive days) demonstrated significant antitumor efficacy in xenograft mouse models in a dose-dependent manner. This study utilized 6-8 week old female BALB/C nude mice with subcutaneous tumors, and the results indicate that increasing doses of Obatoclax correspond to greater antitumor activity.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1508 mL	15.754 mL	31.508 mL
5 mM	0.6302 mL	3.1508 mL	6.3016 mL
10 mM	0.3151 mL	1.5754 mL	3.1508 mL
50 mM	0.063 mL	0.3151 mL	0.6302 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.

Reference

Zhou X, Qian Y, Ling C, et al.An integrated framework for prognosis prediction and drug response modeling in colorectal liver metastasis drug discovery.Journal of Translational Medicine.2024, 22(1): 321.