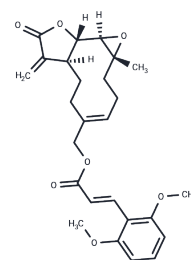


anti-TNBC agent-1

Chemical Properties

CAS No. :	2289585-58-4
Formula:	C ₂₆ H ₃₀ O ₇
Molecular Weight:	454.51
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	anti-TNBC agent-1 is a highly effective compound specifically targeting and combating triple-negative breast cancer (TNBC), demonstrating remarkable potency against various breast cancer cell types with IC ₅₀ values ranging from 0.20 μM to 0.27 μM. Its mechanism of action involves inducing apoptosis in SUM-159 cells through the mitochondria pathway and causing G1 phase arrest in these cells.
Targets(IC ₅₀)	Apoptosis,Others
In vitro	Anti-TNBC agent-1 (compound 7) demonstrates significant efficacy against a range of breast cancer cell lines, including MDA-MB231, SUM-159, MCF-7, Bcap-37, and 4T1. The compound achieves IC ₅₀ values between 0.20 μM to 0.27 μM, indicating a 11.6- to 18.6-fold enhancement in potency relative to its progenitor, parthenolide, which has IC ₅₀ values between 2.68 μM and 4.63 μM. Notably, anti-TNBC agent-1 surpasses the effectiveness of the benchmark drug Adriamycin (ADR)[1]. Specifically, at concentrations of 2 μM and 5 μM over 48 hours, it significantly increases apoptosis induction in SUM-159 cells compared to parthenolide[1], establishing its superior therapeutic potential. Moreover, anti-TNBC agent-1 exhibits selective cytotoxicity towards breast cancer cells, with an IC ₅₀ of 0.22 μM, as opposed to the negligible effect on 3T3 cells (IC ₅₀ = 8.13 μM) [1], underscoring its specificity and promising profile as a targeted anti-TNBC therapy.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2002 mL	11.0009 mL	22.0017 mL
5 mM	0.440 mL	2.2002 mL	4.4003 mL
10 mM	0.220 mL	1.1001 mL	2.2002 mL
50 mM	0.044 mL	0.220 mL	0.440 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

Ge W, et al. Synthesis and structure-activity relationship studies of parthenolide derivatives as potential anti-triple negative breast cancer agents. *Eur J Med Chem.* 2019;166:445-469.

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