

Betavulgarin

Chemical Properties

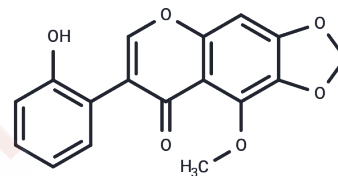
CAS No. : 51068-94-1

Formula: C₁₇H₁₂O₆

Molecular Weight: 312.27

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	Betavulgarin is an anticancer agent that can be isolated from beets (<i>Beta vulgaris</i>). It inhibits the proliferation, migration, colony formation, and mammosphere formation of breast cancer cells, while reducing the size of the CD44+/CD24- subpopulation and the expression of self-renewal-related genes C-Myc, Nanog, and Oct4. Betavulgarin promotes the death of breast cancer stem cells (BCSCs) by regulating Stat3/Sox2 signaling pathways.
Targets(IC50)	STAT
In vitro	Betavulgarin, when applied at concentrations of 50-500 μM for 24 hours, significantly inhibits the proliferation, migration, colony formation, and mammosphere formation of MDA-MB-231 and MCF-7 breast cancer cells. At 200 μM for 24 hours, it effectively reduces the size of the CD44+/CD24- subpopulation in MDA-MB-231 cells from 90.4% to 57.2%. Additionally, Betavulgarin at 200 μM for 48 hours inhibits Stat3 translocation and decreases both total and nuclear p-Stat3 protein levels along with mRNA and protein levels of SOX2 in mammospheres derived from MDA-MB-231 cells. It also significantly impairs the ability of Stat3 to bind DNA in these mammospheres. Over a period of 24-72 hours, Betavulgarin reduces the mRNA expression of self-renewal-related genes C-Myc, Nanog, and Oct4, and inhibits the growth of mammospheres derived from breast cancer stem cells (BCSCs).

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2024 mL	16.0118 mL	32.0236 mL
5 mM	0.6405 mL	3.2024 mL	6.4047 mL
10 mM	0.3202 mL	1.6012 mL	3.2024 mL
50 mM	0.064 mL	0.3202 mL	0.6405 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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