Enterolactone

Cat. No.: HY-108692

CAS No.: 78473-71-9

Molecular Formula: $C_{18}H_{18}O_4$

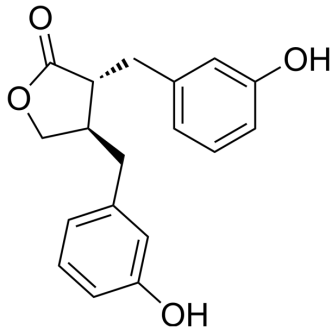
Molecular Weight: 298.33

Target: Apoptosis; Endogenous Metabolite

Pathway: Apoptosis; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 30 mg/mL (100.56 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3520 mL	16.7600 mL	33.5199 mL
	5 mM	0.6704 mL	3.3520 mL	6.7040 mL
	10 mM	0.3352 mL	1.6760 mL	3.3520 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Enterolactone is a bioactive phenolic metabolite known as a mammalian lignan derived from dietary lignans. Enterolactone has estrogenic properties and anti-breast cancer activity[1]. Enterolactone is a radiosensitizer for human breast cancer cell lines through impaired DNA repair and increased apoptosis[2].

In Vitro

Enterolactone (25-75 μM; 48 hours) arrests the growth of MDA-MB-231 breast cancer cells in the 'S' phase[1]
Enterolactone (25-75 μM; 15 hours) triggers apoptosis in MDA-MB-231 breast cancer cells via caspase-3 activation[1].
Enterolactone inhibits TGF-β-induced migration of MDA-MB-231 breast cancer cells. Enterolactone inhibits TGF-β-induced invasion of MDA-MB-231 breast cancer cells through ECM. Enterolactone inhibits the TGF-β-induced EMT program in MDA-MB-231 breast cancer cells. Enterolactone reduces the formation of actin stress fibers by inhibiting the expression of CD44 and MAPK-p38. Enterolactone inhibits the ERK/NF-κB/Snail signaling pathway to revert TGF-β-induced EMT in MDA-MB-231 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MDA-MB-231 cells

Concentration:	25, 50, 75 μM
Incubation Time:	48 hours
Result:	There was a non-significant increase (~24%) in the S phase population following treatment with 25 μM EL, whereas there were significant increases (~34% and ~39%) following treatment with 50 and 75 μM EL, respectively.

REFERENCES

[1]. Bigdeli B, et al. Enterolactone: A novel radiosensitizer for human breast cancer cell lines through impaired DNA repair and increased apoptosis. Toxicol Appl Pharmacol. 2016;313:180-194.

[2]. Mali AV, et al. Enterolactone modulates the ERK/NF-κB/Snail signaling pathway in triple-negative breast cancer cell line MDA-MB-231 to revert the TGF-β-induced epithelial-mesenchymal transition. Cancer Biol Med. 2018;15(2):137-156.

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