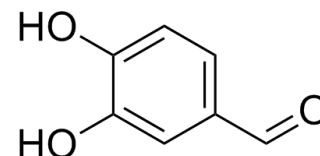


Protocatechualdehyde

Cat. No.:	HY-N0295
CAS No.:	139-85-5
Molecular Formula:	C ₇ H ₆ O ₃
Molecular Weight:	138.12
Target:	Others
Pathway:	Others
Storage:	4°C, stored under nitrogen



BIOLOGICAL ACTIVITY

Description

Protocatechualdehyde (Catechaldehyde), a natural polyphenol compound isolated from the roots of radix *Salviae Miltiorrhizae*, is associated with a wide variety of biological activities and has been widely used in medicine as an antioxidant, anti-aging, an antibacterial and anti-inflammatory agent^[1].

In Vitro

Protocatechualdehyde (PCA) (50, 100 μM, 24/48 hours) treated MCF-7 cells significantly decrease cell growth by 11% and 20% in 24 hours and by 22% and 27% in 48 hours, respectively^[2].

Protocatechualdehyde (50, 100 μM, 24 hours) treated MCF-7 cells are increased by 1.9-fold and 2.6-fold in the concentrations of 50 μM and 100 μM, respectively. PCA suppresses proliferation of estrogen receptor (ER)-positive (MCF-7) breast cancer cells, but not ER-negative (MDA-MB-231) breast cancer cells^[2].

Protocatechualdehyde (0, 100, 200 μM, 48 hours in HCT116 and SW480 cells) affects the enzyme activity of HDAC and observed that PCA treatment resulted in inhibition of HDAC activity in dose-dependent manner^[3].

Cell Proliferation Assay^[2]

Cell Line:	Human breast cancer cell (MCF-7 and MDA-MB-231)
Concentration:	0, 5, 10, 25, 50, and 100 μM
Incubation Time:	24, 48 hours
Result:	Inhibited MCF-7 cells cell growth.

Apoptosis Analysis^[2]

Cell Line:	Human breast cancer cell (MCF-7 and MDA-MB-231)
Concentration:	0, 5, 10, 25, 50, and 100 μM
Incubation Time:	24, 48 hours
Result:	Increased apoptosis in MCF-7 cells.

REFERENCES

[1]. Li S, et al. Evaluation of the Antibacterial Effects and Mechanism of Action of Protocatechualdehyde against *Ralstonia solanacearum*. *Molecules*. 2016 Jun 9;21(6).

[2]. Choi J, et al. Anticancer activity of protocatechualdehyde in human breast cancer cells. *J Med Food*. 2014 Aug;17(8):842-8.

[3]. Jeong JB, et al. Protocatechualdehyde possesses anti-cancer activity through downregulating cyclin D1 and HDAC2 in human colorectal cancer cells. *Biochem Biophys Res Commun*. 2013 Jan 4;430(1):381-6.

Caution: Product has not been fully validated for medical applications. For research use only.

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