Isoimperatorin is a furanocoumarin compound that exhibits anticancer chemotherapeutic, chemopreventive, anti-inflammatory, and antibacterial activities. In vitro, isoimperatorin induces cell cycle arrest at the G2/M phase and inhibits cell proliferation in melanoma cells; separately, it prevents activation of carcinogens such as PBTA-4 and MelQ. In vivo, isoimperatorin decreases tumor growth and tumor weight when combined with UVA irradiation. In cellular models, this compound decreases expression of ROS and vascular cellular adhesion molecule 1 (VCAM-1), increases expression of PPAR-γ, and inhibits NF-κB-induced phosphorylation of Akt, ERK, and PKC. In other cell lines, isoimperatorin inhibits activity of cyclooxygenase (COX-2), preventing production of leukotriene C4 and degranulation of bone marrow-derived mast cells. Additionally, isoimperatorin exhibits activity against both gram positive and gram negative bacteria.

References


Caution: This product is intended for laboratory and research use only. It is not for human or drug use.