

Catalog Number: CM01572

产品信息

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CM01572

CAS号:
84-80-0

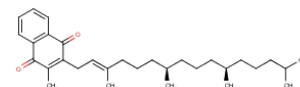
分子式:
C₃₁H₄₆O₂

主要靶点:
Endogenous Metabolite|Others

主要通路:
代谢|其他

分子量:
450.71

溶解度:
DMSO:25 mg/mL (55.47 mM)



体外活性

Phylloquinone (Vitamin K1) is a prenylated naphthoquinone that is synthesized exclusively by plants, green algae, and some species of cyanobacteria, where it serves as a vital electron carrier in photosystem I and as an electron acceptor for the formation of protein disulfide bonds. Phylloquinone plays the role of a vitamin (vitamin K1) that is required for blood coagulation and bone and vascular metabolism in humans and other vertebrates. Phylloquinone from green leafy vegetables and vegetable oil represents the major dietary source of vitamin K for humans[1]. Vitamin K1 treatment causes a significant antiproliferative effect and induces apoptosis in Caco-2, HT-29, and SW480 cell lines, with the involvement of the MAPK pathway. A concomitant and significant decrease in the polyamine biosynthesis occurs[2].

体内活性

Subjects who increased their dietary intake of vitamin K during the follow-up had a 51% reduced risk of incident diabetes compared with subjects who decrease or does not change the amount of phylloquinone intake[3]. Vitamin K supplementation reverses the high fat diet induced bone deterioration by modulating osteoblast and osteoclast activities and prevent bone loss in a high-fat diet-induced obese mice[4]. Application of vitamin K1 to the skin has been used for suppression of pigmentation and resolution of bruising. The effects produced by the topical vitamin K1 exhibit significant healing when compared with control group in parameters like wound contraction, epithelialization period, hydroxyproline content and tensile strength[5].

细胞实验

Caco-2, HT-29, and SW480 cells are treated with increasing concentrations of vitamin K1 (10, 50, 100, and 200 μ M) for 24 h, 48 h, and 72 h. MTT is added to each dish and incubated for 2 h at 37°C. At the end of the incubation period, the medium is removed. The plate is read at 570 nm[2].

描述

Vitamin K1 a fat-soluble, naturally occurring vitamin with antihemorrhagic and prothrombogenic activity.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years