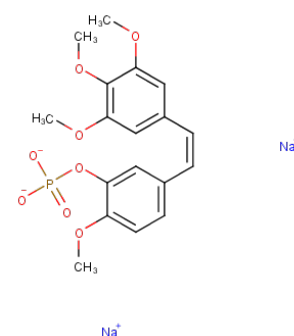


Catalog Number: CM05127

产品信息

Catalog Number:
CM05127CAS号:
168555-66-6分子式:
 $C_{18}H_{19}O_8P_2Na$ 主要靶点:
Apoptosis|Microtubule
Associated主要通路:
凋亡|细胞骨架分子量:
440.29溶解度:
DMSO:Insoluble,H₂O:10 mM

靶点活性

Tubulin:2.4 μ M

体外活性

Fosbretabulin disodium (Combretastatin A-4 phosphate disodium, CA4P disodium) is the water-soluble prodrug of combretastatin A4 (CA4), which is originally isolated from African tree Combretum cafferum. CA4 is a tubulin-binding agent that binds at or near the colchicine binding site of β -tubulin ($K_d = 0.40 \mu$ M), inhibits tubulin assembly with IC_{50} of 2.4 μ M. [1] CA4 is cytotoxic towards proliferating but not quiescent endothelial cells, has potent and selective toxicity towards tumor vasculature. [2] CA4P (1 mM, 30 minutes) disrupts the endothelial microtubule cytoskeleton and mediates changes in endothelial cell morphology. CA4P stimulates actin stress fiber formation and membrane blebbing and increases monolayer permeability via Rho/Rho-kinase. [3] CA4P increases endothelial cell permeability, while inhibiting endothelial cell migration and capillary tube formation predominantly through disruption of VE-cadherin/ β -catenin/Akt signaling pathway, thereby leading to rapid vascular collapse and tumor necrosis. [4]

体内活性

CA4P causes rapid, extensive and irreversible vascular shutdown in experimental tumor models following the administration of a single dose at 10% of the maximum tolerated dose (MTD). CA4P causes a 93% reduction in vascular volume 6 h following drug administration. [2] CA4P (100 mg/kg, 6 h following administration) reduces tumor blood by approximately 100-fold, compared with approximately 7-fold in the spleen. [5]

细胞实验

For the proliferation assay, the minimal concentration of FBS (1%) diluted in X-VIVO medium is used to allow sufficient viability of endothelial cells. After detachment, the cells are seeded at a concentration of 2×10^4 HUVECs in each well of 24-well plates, allowed to adhere overnight, and then incubated with or without cytokines (5 ng/ml FGF-2 or 5 ng/ml VEGF-A). CA4P is added at 0 and 50 nM. After incubation for 12, 24, 36, and 48 hours, cells are detached by trypsin/EDTA and manually counted using trypan blue exclusion. (Only for Reference)

描述

Fosbretabulin Disodium (CA 4P), a water-soluble prodrug of Combretastatin A4 (CA4), is a microtubule-targeting agent that binds β -tubulin ($K_d: 0.4 \mu$ M). Fosbretabulin Disodium (Combretastatin A4 disodium phosphate) inhibits the polymerization of tubulin ($IC_{50}: 2.4 \mu$ M), and also disrupts tumor vasculature.

储存

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