For Research Use Only

Avasimibe

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Catalog Number: CM05689

产品信息

Catalog Number:
CM05689

CAS号:
166518-60-1

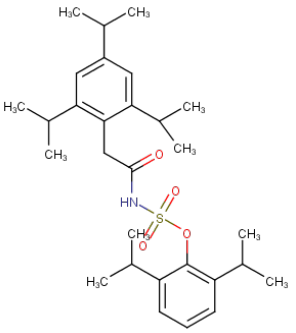
分子式:
$C_{29}H_{43}NO_4S$

主要靶点:
P450|Acyltransferase

主要通路:
代谢|代谢

分子量:
501.72

溶解度:
H2O:< 1 mg/mL (insoluble or slightly soluble);Ethanol:2 mg/mL (3.99 mM);DMSO:100 mg/mL (199.31 mM)



靶点活性

CYP1A2:13.9 μM|CYP2C9:2.9 μM|CYP2C19:26.5 μM|ACAT:3.3 μM

体外活性

Avasimibe通过降低低密度脂蛋而降低总胆固醇.在9只健康雄性猴子体内,Avasimibe明显降低脂蛋白(a)和总胆固醇水平,Avasimibe（30 mg/kg/day,p.o.）饲喂3周,可使总胆固醇和脂蛋白(a)水平分别降低至对照水平的73和68%.

体内活性

在HepG2 细胞中温育24 h,Avasimibe（0.01/1/10 μM）可使分泌到培养基中的ApoB分别降低 25%,27%和43%。在人类单核细胞衍生的巨噬细胞中,通过抑制泡沫细胞形成期低密度脂蛋结合和降低清除剂受体数,Avasimibe（1 μg/ml）可降低酯化胆固醇和总胆固醇。Avasimibe（2 μg/ml）与低密度脂蛋白（10 μg/ml）预温育,可使胆固醇从HMM泡沫细胞中的外排增强。Avasimibe是通过增强细胞内ApoB降解来降低ApoB分泌,但不影响其ApoB合成。 在IC-21巨噬细胞中,Avasimibe抑制 ACTC（IC50：3.3 μM）。 在胶质瘤细胞中,Avasimibe对胆固醇酯的合成和ACAT-1 表达有抑制作用。通过诱导细胞周期停滞和caspase-8/3激活引起的凋亡,Avasimibe可抑制胶质瘤细胞生长。Avasimibe剂量依赖性抑制原代猴肝脏细胞培养基中的脂蛋白(a)累积（11.9% - 31.3%）,这与 ApoA降低有关。

细胞实验

For foam cell formation, the growth medium (RPMI medium containing 10% human serum) is aspirated and the BMMs are rinsed four times with RPMI medium, and then HMMs are exposed to RPMI medium containing bovine serum albumin (BSA, 0.2%) and dimethylsulfoxide (DMSO, 0.2%, vehicle for CI-1011) (control medium) with and without agacLDL (100 μg protein/ml) and CI-1011 (1 μg/ml) for 48 hours. For cholesterol efflux experiments, HMMs are preincubated with ag-acLDL (100 μg protein/ml) for 24h, and then exposed to control RPMI medium with and without HDL (100 μg protein/ml), CI-1011 (2 μg/ml) or HDL plus CI-1011 (2 μg/ml) for 24–48 hours. Additionally, the appearance of [14C]FC in the medium is monitored by first preincubating HMMs with RPMI medium containing ag-acLDL (100 μg protein/ml) radiolabeled with [4-14C]FC (0.5 μCi/ml) in an ethanolic spritz (final concentration, 0.1%) for 24 h. The medium is removed, cells rinsed three times with RPMI medium, and then cells are exposed to control RPMI medium with and without CI-1011 (1–10 μg/ml) for 4–48 h. At each time point, the medium is aspirated and centrifuged to pellet nonadherent cells. The appearance of [14C]FC in the medium is measured by liquid scintillation spectroscopy. Cellular lipids are extracted using hexane:isopropanol (3:2, v/v) for 1 h. The distribution of cellular radiolabeled cholesterol is measured by subjecting an aliquot of the cell extract and FC and EC standards to thin layer chromatography using petroleum ether:hexane:glacial acetic acid solvent system (85:15:2, v/v). The percent FC efflux is calculated as: medium [14C]FC dpm/ cell [14C] dpm×100. FC and TC mass are quantified by gas liquid chromatography using stigmasterol (1 mg/ml) as an internal standard. EC mass is calculated as the difference between TC and FC, and all values are normalized to cell protein. The MBC is de?ned as the lowest concentration that exhibited 99.9% or more reduction of the numbers of colonies compared with the cfu in the initial inoculum. (Only for Reference)

储存

Powder: -20°C for 3 years | In solvent: -80°C for 1 year | Shipping with blue ice.