For Research Use Only

Etoposide

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Catalog Number: CM00991

产品信息

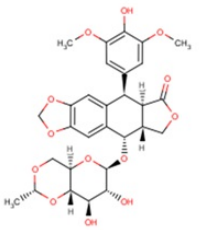
Catalog Number:
CM00991

CAS号:
33419-42-0

分子式:
$C_{29}H_{32}O_{13}$

分子量:
588.56

溶解度:
DMSO:60 mg/mL (101.94 mM);



主要靶点:
Autophagy|Apoptosis|Antibacterial|Antibiotic|Topoisomerase|Mitophag

主要通路:
微生物学|DNA 损伤和修复|微生物学|凋亡|自噬|自噬

靶点活性

Topo II:60.3 μM

体外活性

方法：人宫颈癌细胞 HeLa 用 Etoposide (25-400 μM) 处理 24-48 h，使用 MTT 方法检测细胞活力。**结果：**Etoposide 抑制 Hela 细胞增殖，处理 24 h 和 48 h 的 IC50 分别为 167.3 μM 和 52.7 μM。[1] **方法：**人肺腺癌细胞 A549 用 Etoposide (0.75-3 μM) 处理 4 h，使用 Flow Cytometry 方法检测细胞周期情况。**结果：**Etoposide 导致 G0/G1 和 S 期的 A549 细胞百分比显著降低。同时，G2/M 期的细胞显著增加。[2] **方法：**小鼠胚胎成纤维细胞 MEFs 用 Etoposide (1.5-150 μM) 处理 3-18 h，使用 Western Blot 方法检测靶点蛋白表达水平。**结果：**150?μM的 Etoposide 在 6 h 内诱导 Caspase-3 的强烈裂解，而 1.5 或 15?μM 仅在 18 h 后激活 Caspase-3。[3]

体内活性

方法：为检测体内抗肿瘤活性，将 Etoposide (10 mg/kg) 和 Cisplatin (5-7.5 mg/kg) 腹腔注射给携带人子宫内膜腺癌肿瘤 Ishikawa 的 KSN nude 小鼠，每两天一次，持续两周。**结果：**作为单一药物，Etoposide 对肿瘤生长几乎没有抑制作用。Etoposide 和 Cisplatin 联合治疗显著抑制肿瘤生长。[4] **方法：**为检测体内抗肿瘤活性，将 Etoposide (80 mg/kg in 0.5% methylcellulose) 灌胃给药给携带人胶质母细胞肿瘤 U87 的免疫缺陷小鼠，每天一次，持续四十天。**结果：**80 mg/kg Etoposide 抑制 U87 肿瘤生长，抑制率为95%。[5]

动物实验

The in vivo model for nude mice HB (NMHB) has been established. Only HB cells with embryonal components are grafted and reproduced successfully in this model. Each NMHB subsequently is transplanted into 50 mice for treatment groups. Treatment is initiated when the majority of the tumors reach a volume of 50-100 mm3. The mice are stratified according to their tumor volume and randomly assigned to groups of ten animals each. The animals injected with tumor are given ifosfamide, cisplatin, doxorubicin, etoposide (10 mg/kg/day, i.v.), and carboplatin as single agents in two blocks. One group of ten animals for each original xenograft served as a control group. After initiation of treatment, the tumor growth is recorded at 5-day intervals for 25-30 days and the relative tumor volumes are calculated. Twenty-four hours before the animals are sacrificed, bromodeoxyuridine (BrdU) is injected intraperitoneally for the semiquantitative determination of proliferation activity of the tumor cells (50 μg of BrdU/g body weight) [4].

细胞实验

After the Etoposide treatment, cells are removed from the dish with phosphate-buffered saline (PBS) containing 0.03% trypsin and 0.27 mM ethylenediaminetetraacetic acid (EDTA) and are diluted into culture dishes in appropriate numbers to yield between 20 and 200 colonies. After 12 days, cultures are fixed with methanol-acetic acid, stained with crystal violet, and scored for colonies containing more than 50 cells [5].

储存

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