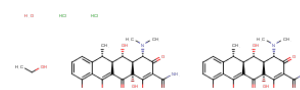


Catalog Number: CM02809

产品信息

Catalog Number:
CM02809CAS号:
24390-14-5分子式:
 $C_{22}H_{24}N_2O_8 \cdot HCl \cdot 1/2 C_2H_6O \cdot 1/2 H_2O$ 主要靶点:
Antibiotic|Antibacterial|MMP|ribosome主要通路:
微生物学|蛋白酶体|微生物学|微生物学分子量:
512.9溶解度:
H₂O:13.89 mg/mL;DMSO:55 mg/mL (107.23 mM)

体外活性

方法：22种肿瘤细胞用 Doxycycline hyclate 处理 48 h，使用 MTT 方法检测细胞活力。结果：肺癌细胞对 Doxycycline 比其他大多数细胞系更敏感。NCI-H446 和 A549 细胞对 Doxycycline 敏感，IC₅₀分别为 1.70 μM 和 1.06 μM。[1] 方法：人胰腺癌细胞 PANC-1 用 Doxycycline hyclate (10-40 μg/mL) 处理 8-24 h，使用 Flow Cytometry 方法检测细胞周期情况。结果：Doxycycline 使细胞停滞在细胞周期的 G1-S 期。[2]

体内活性

方法：为检测体内抗肿瘤活性，将 Doxycycline hyclate (50 mg/kg) 腹腔注射给携带人乳腺癌肿瘤 4T1 的 BALB/c 小鼠，每天一次，持续十五天。结果：Doxycycline 延迟肿瘤生长并降低肿瘤相关巨噬细胞和血管的数量。[3] 方法：为检测体内抗菌活性，将 Doxycycline hyclate (40 mg/kg) 腹腔注射给暴露于 *B. pseudomallei* 1026b 的 BALB/c 小鼠，每天两次，持续两周。结果：用 Doxycycline 治疗的小鼠 100% 存活，并且从大多数存活小鼠的肺或脾脏中没有扩增出 *B. pseudomallei* 的 DNA。[4]

细胞实验

Doxycycline is diluted in culture medium at a concentration of 10 μg/mL. All in vitro treatments are performed in SMC cultures at 90% confluence, when ECM synthesis in SMC starts to be evident. Doxycycline (20 nM) is diluted in culture medium at a concentration of 10 μg/mL (20 nM), at which no toxicity or variation in primary cultured SMC proliferation has been reported, as well as in other cell lines and the incubation time is 48 h. SMC-C and SMC-Ch are seeded at equal cell density in 6-well plates and, when confluence reaches 90%, 1 mL culture medium is added to each well containing 3.7×10⁴ Bq L-[5-3H]-proline (9.62×10¹¹ Bq/mmol). After 48h incubation, cells are lysed with 0.5 mL 0.5 mol/L NaOH for 1 h. The resulting solution is neutralized with an equal amount of 0.5 mol/L HCl, and 50 μL are used to measure total proteins with the Bradford method. One volume of 10% TCA is added to the remaining 250 μL and centrifuged at 13,000 g for 15 min at 4°C. The resulting precipitate is dissolved in 100 μL 0.2 mol/L NaOH, and then neutralized with 1 mol/L HCl. The solution is incubated with collagenase buffer (Tris-HCl, pH 7.6 20 mM, and CaCl₂ 250 mM final concentration) and 10 units of collagenase at 37°C overnight. Then, 150 μL 10% TCA are added and centrifuged at 13000 g for 15 min at 4°C. The resulting supernatant is added to 4 mL of scintillation fluid and the radioactivity is measured in a liquid scintillation counter LS 600 TA.

储存

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