For Research Use Only

Astragaloside IV

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Catalog Number: CM06754

产品信息

Catalog Number:
CM06754

CAS号:
84687-43-4

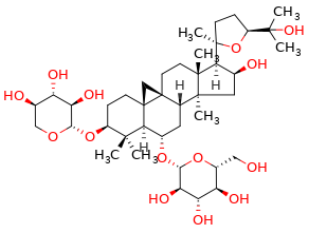
分子式:
$C_{41}H_{68}O_{14}$

主要靶点:
Estrogen/progestogen Receptor|JNK|MMP|ERK

主要通路:
MAPK 信号通路|蛋白酶体|MAPK 信号通路|内分泌与激素

分子量:
784.97

溶解度:
DMSO:50 mg/mL (63.7 mM)



体外活性

Astragaloside IV对MDA-MB-231乳腺癌细胞的活性和侵袭性产生抑制作用，能够压抑丝裂原活化蛋白激酶（MAPK）家族成员ERK1/2和JNK的激活，并下调金属蛋白酶（MMP）-2和-9的表达。在NSCLC细胞生长抑制方面，Astragaloside IV（10、20、40 ng/mL）显示出明显的作用，而低浓度Astragaloside IV（1、2.5、5 ng/mL）对细胞活性无明显细胞毒性。此外，Astragaloside IV与化疗化合物顺铂联合治疗显著提高了NSCLC细胞对化疗化合物的敏感性。在分子水平上，Astragaloside IV与顺铂联合使用显著抑制了B7-H3的mRNA和蛋白水平的表达。

体内活性

在小鼠模型中，高剂量的Astragaloside IV组在48小时存活率上显示出显著增加[60%(9/15)对比13.3%(2/15), P<0.05]，血清ALT和AST水平显著降低(P<0.01)，肝脏组织病理学指数及肝细胞凋亡程度显著降低(P<0.01)，以及肝匀浆中MDA含量显著减少(P<0.01)，SOD活性显著增加。Astragaloside IV（10, 20 mg/kg, p.o.）显著地预防了短暂脑缺血及再灌注所诱导的认知缺陷。与模型组相比，Astragaloside IV（10 mg/kg）和Astragaloside IV（20 mg/kg）能显著降低这些细胞因子的水平。Astragaloside IV明显抑制了TLR4及其下游蛋白的水平，表明MyD88依赖性和非依赖性途径在Astragaloside IV的抗炎作用中发挥了重要作用。此外，Astragaloside IV减少了NLRP3和活化的caspase-1的表达，同时也降低了Iba1蛋白的表达。

动物实验

Transient cerebral ischemia and reperfusion is prepared by BCCAO. Mice are randomly divided into the Sham, Model, Astragaloside IV (10 mg/kg) and Astragaloside IV (20 mg/kg) treatment groups. The Astragaloside IV treatment groups are intragastrically administered 7 days before the surgery and terminated on the day of sacrifice. On the day of the surgery, Astragaloside IV is administrated 2 h prior to ischemia. The Sham-operated and Model groups are treated with distilled water. After the mice are anesthetized with an intraperitoneal injection of chloral hydrate (350 mg/kg), the bilateral common carotid arteries are exposed and carefully separated with a small ventral neck incision and occluded twice (20 min each) with ligated surgical silk as described previously with minor modifications. There is a 10 min reperfusion period between the two occlusion periods (ischemia 20 min ? reperfusion 10 min ? ischemia 20 min). Sham-operated mice are subjected to the same surgical operation without the surgical silk ligation. Mouse body temperature is maintained at 37±0.5°C during the surgery with heating equipment until recovery from the anesthesia.

细胞实验

CCK-8 assay is adopted to determine cell viability. cultured NSCLC cells are seeded into 96-well plates at the density of 4×104 (cells/well). Then 10 μL?well CCK8 solution is added and incubated in dark at 37°C for another 2 h. The absorbance is determined with the wavelength of 490 nm.

储存

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