

Catalog Number: CM01020

产品信息

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CM01020

CAS号:
616-91-1

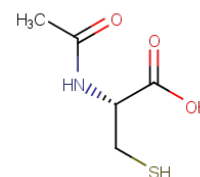
分子式:
 $C_5H_9NO_3S$

主要靶点:
ROS|Influenza Virus|Endogenous
Metabolite|Reactive Oxygen
Species|Apoptosis|TNF|Ferroptosis

主要通路:
NF- κ B信号通路|代谢|免疫与炎症|
凋亡|微生物学

分子量:
163.19

溶解度:
H₂O:30 mg/mL (183.8
mM), Ethanol:31 mg/mL (190
mM), DMSO:31 mg/mL (190 mM)



体外活性

N-acetylcysteine prevents apoptotic DNA fragmentation and maintains long-term survival in the absence of other trophic support in serum-deprived PC12 cells. N-acetylcysteine also prevents the death of PC12 cells and sympathetic neurons[2]. N-acetylcysteine activates the Ras-extracellular signal-regulated kinase (ERK) pathway in PC12 cells. N-acetylcysteine protects neuronal cells from death evoked by the withdrawal of trophic support. N-acetylcysteine increases nitric oxide (NO) release from protein-bound stores in vascular tissue. N-acetylcysteine pretreatment of PC12 cells interferes with NGF-dependent signaling and neurite outgrowth, and it is suggested that N-acetylcysteine interferes with redox-sensitive steps in the NGF mechanism[3].

体内活性

N-acetylcysteine (150, 300 mg/kg) treatment significantly reduces liver transaminases in all groups of treatment, mostly in group N-acetylcysteine 300. Lung glutathione peroxidase is significantly increased in group N-acetylcysteine 300 ($P=0.04$), while the other oxidation biomarkers show no significant differences[1].

动物实验

Rats are randomly allocated into five groups: sham group ($n=5$), control group with IIR ($n=8$) and three groups with IIR who are given N-acetylcysteine in different dosages: 150 mg/kg intraperitoneally 5 min before ischemia ($n=8$, group N-acetylcysteine 150), 300 mg/kg i.p 5 min before ischemia ($n=7$, group N-acetylcysteine 300), and 150 mg/kg i.p 5 min before ischemia plus 150 mg/kg 5 min before reperfusion ($n=7$, group N-acetylcysteine 150 + 150). After 4 h of reperfusion, the animals are euthanized by exsanguination from the abdominal aorta.[1]

细胞实验

For survival experiments, washed cells are resuspended in RPM1 1640 medium and plated in 0.5 mL at a density of $8-10 \times 10^5$ per well in 24 well plastic culture dishes coated with rat tail collagen. To feed, but to avoid loss of floating cells, fresh medium (0.2 mL) is added to the cultures on days 1, 5, and 10. For experiments involving "primed" PC12 cells, cultures are pretreated for 1-2 weeks with NGF in RPM1 1640 medium supplemented with 1% heat-inactivated horse serum. The cells are then washed and passaged into serum-free RPM1 1640 medium.

描述

Acetylcysteine is the N-acetyl derivative of CYSTEINE. It is used as a mucolytic agent to reduce the viscosity of mucous secretions. It has also been shown to have antiviral effects in patients with HIV due to inhibition of viral stimulation by reactive oxygen intermediates.

储存

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