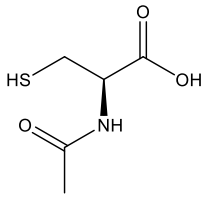
Catalog # 10-2321
N-Acetyl-L-cysteine

CAS# 616-91-1

(R)-2-Acetamido-3-mercaptopropanoic acid; N-Acetylcysteine; NAC; NSC-111180

Lot # X105176



A thiol-containing antioxidant.[1] N-Acetyl-L-cysteine acts as a scavenger of reactive oxygen species (ROS) and is commonly used to decrease oxidative stress in various models.[2] Inhibits ROS-dependent apoptosis.[3] Displays protective effects in various disease models including renal ischemia/reperfusion injury[4], hepatic failure[5] and others. Has been shown to interfere with and antagonize the activity of proteasome inhibitors.[6]

1) Merck Index **14** 88
2) Mlejnek *et al*. (2022), *Direct Interaction between N-Acetylcysteine and Cytotoxic Electrophile – An Overlooked In Vitro Mechanism of Protection*; Antioxidants (Basel), **11** 1485
3) Curtin *et al*. (2002), *Regulation and measurement of oxidative stress in apoptosis*; J. Immunol. Methods, **265** 49
4) Sehirli *et al.* (2003), *Protective effect of N-acetylcysteine on renal ischemia/reperfusion injury in the rat*; J. Nephrol. **16** 75
5) Ritter *et al.* (2004), *Protective effect of N-acetylcysteine and deferoxamine on carbon tetrachloride-induced hepatic failure in rats*; Crit. Care Med. **32** 2079
6) Halasi *et al.* (2033), *ROS inhibitor N-acetyl-L-cysteine antagonizes the activity of proteasome inhibitors*; Biochem. J. **454** 201

PHYSICAL DATA

Molecular Weight:	163.19
Molecular Formula:	$C_5H_9NO_3S$
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (50 mg/ml); water (30 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase.
	Do not store solutions. Use freshly prepared solutions and discard any remaining solution.

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