

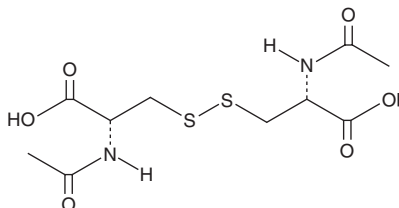
PRODUCT INFORMATION



N,N'-Diacetyl-L-cystine

Item No. 17596

CAS Registry No.: 5545-17-5
Formal Name: (2R,2'R)-3,3'-disulfanediylobis
(2-acetamidopropanoic acid)
Synonyms: N,N'-Diacetylcystine, DiNAC,
NSC 203780
MF: C₁₀H₁₆N₂O₆S₂
FW: 324.4
Purity: ≥90%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N,N'-Diacetyl-L-cystine is supplied as a crystalline solid. A stock solution may be made by dissolving the N,N'-diacetyl-L-cystine in the solvent of choice, which should be purged with an inert gas. N,N'-Diacetyl-L-cystine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N,N'-diacetyl-L-cystine in ethanol is approximately 25 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of N,N'-diacetyl-L-cystine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N,N'-diacetyl-L-cystine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DiNAC is a disulfide dimer of N-acetylcysteine with immunomodulatory properties. Its intact disulfide bridge has been shown to be important for its ability to modify contact sensitivity/delayed hypersensitivity reactions in mice.^{1,2} At 3 μM/kg/day, DiNAC also demonstrates anti-atherosclerotic effects, improving endothelial function in Watanabe heritable hyperlipidemic rabbits.²⁻⁴

References

1. Särnstrand, B., Jansson, A.-H., Matuseviciene, G., et al. N,N'-Diacetyl-L-cystine-the disulfide dimer of N-acetylcysteine-is a potent modulator of contact sensitivity/delayed type hypersensitivity reactions in rodents. *J. Pharmacol. Exp. Ther.* **288(3)**, 1174-1184 (1999).
2. Pettersson, K. and Bergstrand, H. The antiatherogenic effect of DiNAC: Experimental findings supporting immunomodulation as a new treatment for atherosclerosis related diseases. *Cardiovasc. Drug Rev.* **21(2)**, 119-132 (2003).
3. Wågberg, M., Jansson, A.-H., Westerlund, C., et al. N,N'-Diacetyl-L-cystine (DiNAC), the disulphide dimer of N-acetylcysteine, inhibits atherosclerosis in WHHL rabbits: Evidence for immunomodulatory agents as a new approach to prevent atherosclerosis. *J. Pharmacol. Exp. Ther.* **299(1)**, 76-82 (2001).
4. Pettersson, K.S., Eliasson, U.B., Abrahamsson, T., et al. N,N'-Diacetyl-L-cystine improves endothelial function in atherosclerotic watanabe heritable hyperlipidaemic rabbits. *Basic Clin. Pharmacol. Toxicol.* **100(1)**, 36-42 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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