# S-Nitroso-N-acetyl-DL-penicillamine

**Cat. No.:** HY-121526

**CAS No.:** 67776-06-1

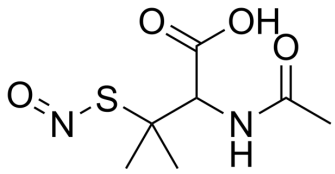
**Molecular Formula:** $C_7H_{12}N_2O_4S$

**Molecular Weight:** 220.25

**Target:** NO Synthase

**Pathway:** Immunology/Inflammation

**Storage:** Powder -20°C 3 years
4°C 2 years
* The compound is unstable in solutions, freshly prepared is recommended.



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 250 mg/mL (1135.07 mM; Need ultrasonic)
$H_2O$ : 11.11 mg/mL (50.44 mM; Need ultrasonic)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 4.5403 mL | 22.7015 mL | 45.4030 mL |
| | 5 mM | 0.9081 mL | 4.5403 mL | 9.0806 mL |
| | 10 mM | 0.4540 mL | 2.2701 mL | 4.5403 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (9.44 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (9.44 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

S-Nitroso-N-acetyl-DL-penicillamine (SNAP) is a nitric oxide donor and acts as a stable inhibitor of platelet aggregation[1][2][3][4].

**In Vitro**

S-Nitroso-N-acetyl-DL-penicillamine (10 mM; 8 hours) induces toxicity of about 80% after 6 hours under normoxic conditions by releasing nitric oxide (NO)[1].
?S-Nitroso-N-acetyl-DL-penicillamine has a half-time about 6 hours in in isolated rat ventricular myocytes[3].
?S-Nitroso-N-acetyl-DL-penicillamine (100 μM; 30 minutes) causes sustained decrease in the basal pHi in isolated rat ventricular myocytes[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

| | |
|---|---|
| Cell Line: | Rat liver sinusoidal endothelial cells |
| Concentration: | 2 mM, 5 mM, 10 mM |
| Incubation Time: | 2 hours, 4 hours, 6 hours, 8 hours |
| Result: | Exhibited cytotoxicity against cultivated endothelial cells. |

**In Vivo**

SNAP (100μM, 300μM) causes small but significant increases of the electrically evoked [$^3$H]-acetylcholine release in guinea-pig tracheal[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Hepatol Commun. 2023 Dec 22;8(1):e0350.

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## REFERENCES


[1]. E. Salas, et al. Comparative pharmacology of analogues of S-nitroso-N-acetyl-DL-penicillamine on human platelets. Br J Pharmacol. 1994 Aug;112(4):1071-6.

[2]. Ioannidis I, et al. Enhanced release of nitric oxide causes increased cytotoxicity of S-nitroso-N-acetyl-DL-penicillamine and sodium nitroprusside under hypoxic conditions. Biochem J. 1996 Sep 15;318 ( Pt 3):789-95.

[3]. Pravdic D, et al. Effect of nitric oxide donors S-nitroso-N-acetyl-DL-penicillamine, spermine NONOate and propylamine propylamine NONOate on intracellular pH in cardiomyocytes. Clin Exp Pharmacol Physiol. 2012 Sep;39(9):772-8.

[4]. Mang CF, et al. Modulation of acetylcholine release in the guinea-pig trachea by the nitric oxide donor, S-nitroso-N-acetyl-DL-penicillamine (SNAP). Br J Pharmacol. 2000 Sep;131(1):94-8.





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