

Product Data Sheet

Product Name: Spermine NONOate

Cat. No.: GC13694

Chemical Properties

Cas. No. 136587-13-8

Chemical Name N'-(3-aminopropyl)-N'-(4-((3-aminopropyl)amino)butyl)-N-hydroxynitrous hydrazide

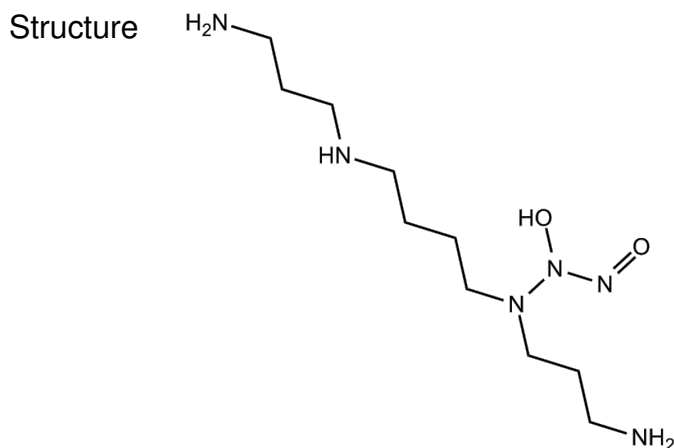
SMILES ON(N=O)N(CCCN)CCCCNCCCN

Formula $C_{10}H_{26}N_6O_2$ M.Wt 262.35

Solubility aqueous buffers: >100 mg/ml (per Rao) Storage Store at -80°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.



Background

Spermine NONOate is a diazeniumdiolate nitric oxide donor [1].

Nitric oxide (NO) increases intracellular guanosine 3' 5' cyclic monophosphate and activates guanylate cyclase, which then cause relaxation of vascular smooth muscle [1].

Caution: Product has not been fully validated for medical applications. For research use only.

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Spermine NONOate is a diazeniumdiolate nitric oxide donor. In rat pulmonary artery rings, spermine NONOate (100 μ M) increased guanosine 3'5' cyclic monophosphate (cyclic GMP) by 35 fold and caused cyclic GMP-independent relaxation by activation of sarco-endoplasmic reticulum Ca^{2+} -ATPase, $\text{Na}^{+}/\text{K}^{+}$ -ATPase and calcium-activated potassium channels [1]. Spermine NONOate inhibited human low-density lipoprotein (LDL) oxidation induced by the copper(II) sulfate [2].

In rats with bilateral uterine horn injury, spermine NONOate (1 mg) inhibited the formation of adhesions. Also, The N,O-carboxymethylchitosan (NOCC) plus spermine NONOate group had a lower severity score and extent score than the spermine NONOate group. These results suggested that spermine NONOate reduced the postoperative adhesions [3].

References:

- [1]. Homer KL, Wanstall JC. Cyclic GMP-independent relaxation of rat pulmonary artery by spermine NONOate, a diazeniumdiolate nitric oxide donor. Br J Pharmacol, 2000, 131(4): 673-682.
- [2]. Goss SP, Hogg N, Kalyanaraman B. The antioxidant effect of spermine NONOate in human low-density lipoprotein. Chem Res Toxicol, 1995, 8(5): 800-806.
- [3]. Duran B, Ak D, Cetin A, et al. Reduction of postoperative adhesions by N,O-carboxymethylchitosan and spermine NONOate in rats. Exp Anim, 2003, 52(4): 267-272.

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