Sodium nitroprusside

Cat. No.: HY-B0564

CAS No.: 14402-89-2

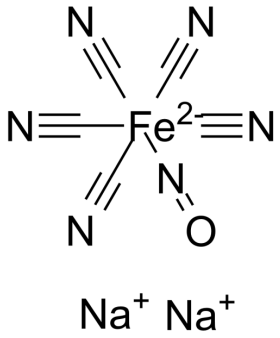
Molecular Formula: $C_5FeN_6Na_2O$

Molecular Weight: 261.92

Target: Others

Pathway: Others

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (381.80 mM; Need ultrasonic)
DMSO : 33.33 mg/mL (127.25 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8180 mL	19.0898 mL	38.1796 mL
	5 mM	0.7636 mL	3.8180 mL	7.6359 mL
	10 mM	0.3818 mL	1.9090 mL	3.8180 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (381.80 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.54 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sodium nitroprusside (Ro 21-2498) is a potent vasodilator working through releasing NO spontaneously in blood.

In Vitro

Sodium nitroprusside (Ro 21-2498) is a potent vasodilator. Sodium nitroprusside has potent vasodilating effects in arterioles and venules. Sodium nitroprusside breaks down in circulation to release nitric oxide (NO). NO activates guanylate cyclase in vascular smooth muscle and increases intracellular production of cGMP. The end result is vascular smooth muscle relaxation, which allow vessels to dilate [1]. Sodium nitroprusside decreases the proliferation of vascular smooth muscle cells [2]. Sodium nitroprusside (5 mg/kg) significantly reduces the intestinal ischemiareperfusion injury as a nitric oxide donor in rats [3].

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

CUSTOMER VALIDATION

- Chem Eng J. 15 August 2022, 136169.
- Redox Biol. 2023 Dec 18:69:103004.
- J Neuroinflammation. 2023 Feb 24;20(1):49.
- Br J Pharmacol. 2021 Aug 6.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Wink, D.A., et al., The effect of various nitric oxide-donor agents on hydrogen peroxide-mediated toxicity: a direct correlation between nitric oxide formation and protection. Arch Biochem Biophys, 1996. 331(2): p. 241-8.

[2]. Garg, U.C. and A. Hassid, Nitric oxide-generating vasodilators and 8-bromo-cyclic guanosine monophosphate inhibit mitogenesis and proliferation of cultured rat vascular smooth muscle cells. J Clin Invest, 1989. 83(5): p. 1774-7.

[3]. Namazi, H., Sodium nitroprusside as a nitric oxide donor in a rat intestinal ischemia reperfusion model: a novel molecular mechanism. Clinics (Sao Paulo), 2008. 63(3): p. 405.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA