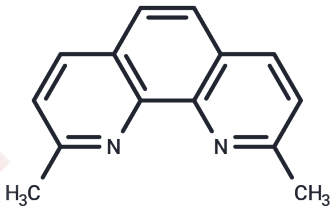
Data Sheet (Cat.No.T33631)

TargetMol

Neocuproine

Chemical Properties



CAS No. : 484-11-7

Formula: C14H12N2

Molecular Weight: 208.26

Storage: Keep away from direct sunlight,Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Neocuproine is a copper(I) chelator that enhances the purinergic component of vasoconstriction induced by electric field stimulation, and is often used as a ligand reagent and copper ion detector.Neocuproine forms stable complexes with copper ions and can play a catalytic role in certain chemical reactions and analytical methods. Neocuproine acts as a redox-active on the iron and cobalt ligand platform for protection against oxidative damage in NSC34 cells.
Targets(IC50)	Others
In vitro	Neocuproine (100 lM) generally inhibits the production of inflammatory mediators.[2] Neocuproine treatment reduced IFN-γ, MCP-1, MCP-3, and VEGF-A levels. The production of KC/GRO was downregulated by neocuproine deficiency.[2] Neocuproine, but not ATP7A deficiency, reduced the production of FGF-9, IL-1α, IL-12p70, IL-2, IL-3, IL-4, IL-6, MIP-1β, MIP-2, RANTES, and TNFα.[2]
In vivo	Neocuproine (100 microM) significantly suppressed the amplitude and frequency of the spontaneous contractions in the ovariectomized non-pregnant rat uterus while this agent facilitated the frequency of the spontaneous or oxytocin-induced contractions in the pregnant rat and human uterus without altering the amplitude of these contractions.[3] Neocuproine (200 microM) could enhance the amplitude of the contractions in the pregnant uterus. These effects were blocked by a purinergic receptor antagonist, suramin (100 microM) and did not occur following the administration of neocuproine-copper(I) complex or copper(II) chelator cuprizone. alpha, beta-methylene ATP increased the amplitude and frequency of contractions in the pregnant uterus, but not affected the contractions in the ovariectomized non-pregnant rat uterus, and neocuproine potentiated this facilitation effect.[3]

Solubility Information

Solubility	DMSO: 70.71 mg/mL (339.53 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 3.3 mg/mL (15.85 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.8017 mL	24.0085 mL	48.0169 mL
5 mM	0.9603 mL	4.8017 mL	9.6034 mL
10 mM	0.4802 mL	2.4008 mL	4.8017 mL
50 mM	0.096 mL	0.4802 mL	0.9603 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Castro PA, et al. Copper-uptake is critical for the down regulation of synapsin and dynamin induced by neocuproine: modulation of synaptic activity in hippocampal neurons. Front Aging Neurosci. 2014 Dec 3;6:319.
Patel OV, et al. Production of LPS-induced inflammatory mediators in murine peritoneal macrophages: neocuproine as a broad inhibitor and ATP7A as a selective regulator. Biometals. 2013 Jun;26(3):415-25.
Kumcu EK, et al. Differential effect of neocuproine, a copper(I) chelator, on contractile activity in isolated ovariectomized non-pregnant rat, pregnant rat and pregnant human uterus. Eur J Pharmacol. 2009 Mar 1;605(1-3):158-63.
Soares SAR, et al. Comparison of Spectrophotometric Methods for the Determination of Copper in Sugar Cane Spirit. J AOAC Int. 2018 May 1;101(3):876-882.