

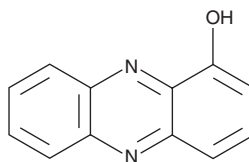
# PRODUCT INFORMATION



## 1-Hydroxyphenazine

Item No. 28064

**CAS Registry No.:** 528-71-2  
**Formal Name:** 1-phenazinol  
**Synonyms:** Hemipyocyanine, NSC 88882  
**MF:** C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>O  
**FW:** 196.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 264, 369 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

1-Hydroxyphenazine is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-hydroxyphenazine in the solvent of choice, which should be purged with an inert gas. 1-Hydroxyphenazine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 1-hydroxyphenazine in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

### Description

1-Hydroxyphenazine is a phenazine pigment and virulence factor produced by *P. aeruginosa*.<sup>1,2</sup> It increases production of reactive oxygen species (ROS) in RAW 264.7 cells in a concentration-dependent manner.<sup>2</sup> 1-Hydroxyphenazine (≥1.55 and ≥3.12 μM) increases release of elastase and myeloperoxidase (MPO), respectively, by human neutrophils activated with N-formyl-L-methionyl-L-leucyl-L-phenylalanine (fMLP; Item No. 21495) and cytochalasin B (Item No. 11328).<sup>1</sup> It reduces ciliary beat frequency in isolated guinea pig tracheal rings, resulting in ciliary dyskinesia by one hour when used at concentrations of 10, 50, and 100 μM and ciliary stasis by five hours at 50 and 100 μM.<sup>3</sup> 1-Hydroxyphenazine reduces tracheal mucus velocity in anesthetized guinea pigs when administered as a 100 or 200 ng bolus dose. It is also active against the plant pathogenic fungi *F. graminearum*, *P. grisea*, *A. solani*, *F. oxysporium*, and *S. sclerotiorum* (MICs = 2-50 μg/ml).<sup>4</sup>

### References

1. Ramafi, G., Anderson, R., Theron, A., *et al.* Exposure of N-formyl-L-methionyl-L-leucyl-L-phenylalanine-activated human neutrophils to the *Pseudomonas aeruginosa*-derived pigment 1-hydroxyphenazine is associated with impaired calcium efflux and potentiation of primary granule enzyme release. *Infect. Immun.* **67(10)**, 5157-5162 (1999).
2. Sinha, S., Shen, X., Gallazzi, F., *et al.* Generation of reactive oxygen species mediated by 1-hydroxyphenazine, a virulence factor of *Pseudomonas aeruginosa*. *Chem. Res. Toxicol.* **28(2)**, 175-181 (2015).
3. Munro, N.C., Barker, A., Rutman, A., *et al.* Effect of pyocyanin and 1-hydroxyphenazine on *in vivo* tracheal mucus velocity. *J. Appl. Physiol.* **67(1)**, 316-323 (1985).
4. Luo, Q., Hu, H., Peng, H., *et al.* Isolation and structural identification of two bioactive phenazines from *Streptomyces griseoluteus* P510. *Chin. J. Chem. Eng.* **23(4)**, 699-703 (2015).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/20/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM