

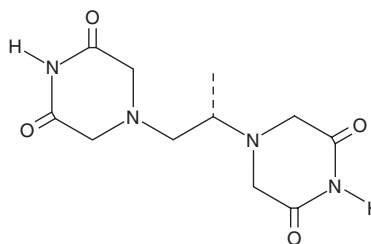
# PRODUCT INFORMATION



## Dexrazoxane

Item No. 14632

**CAS Registry No.:** 24584-09-6  
**Formal Name:** 4,4'-[(1S)-1-methyl-1,2-ethanediyl]bis-2,6-piperazinedione  
**Synonyms:** ICRF 187, NSC 169780  
**MF:** C<sub>11</sub>H<sub>16</sub>N<sub>4</sub>O<sub>4</sub>  
**FW:** 268.3  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Dexrazoxane is supplied as a crystalline solid. A stock solution may be made by dissolving the dexrazoxane in the solvent of choice, which should be purged with an inert gas. Dexrazoxane is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of dexrazoxane in these solvents is approximately 10 and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of dexrazoxane can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dexrazoxane in PBS (pH 7.2) is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Dexrazoxane is an intracellular iron chelator and an inhibitor of topoisomerase II $\alpha$ .<sup>1</sup> Through these activities, dexrazoxane is highly protective in reducing anthracycline-induced cardiotoxicity and extravasation injury.<sup>2</sup> Dexrazoxane has also been shown to act as an antioxidant that scavenges hydroxyl (IC<sub>50</sub> = 2.1 mM), superoxide (IC<sub>50</sub> = 0.4 mM), lipid (IC<sub>50</sub> = 4.4 mM), 2,2-diphenyl-1-picrylhydrazyl (IC<sub>50</sub> = 3.5  $\mu$ M), and 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid) (IC<sub>50</sub> = 3.8 mM) free radicals.<sup>3</sup>

### References

1. Yan, T., Deng, S., Metzger, A., *et al.* Topoisomerase II $\alpha$ -dependent and -independent apoptotic effects of dexrazoxane and doxorubicin. *Mol. Cancer Ther.* **8(5)**, 1075-1085 (2009).
2. Kurz, T., Grant, D., Andersson, R.G.G., *et al.* Effects of MnDPDP and ICRF-187 on doxorubicin-induced cardiotoxicity and anticancer activity. *Transl. Oncol.* **5(4)**, 252-259 (2012).
3. Junjing, Z., Yan, Z., and Baolu, Z. Scavenging effects of dexrazoxane on free radicals. *J. Clin. Biochem. Nutr.* **47(3)**, 238-245 (2010).

#### 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, 11/04/2022

#### 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