

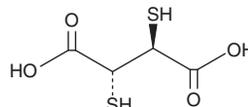
# PRODUCT INFORMATION



## meso-2,3-Dimercaptosuccinic Acid

Item No. 28515

**CAS Registry No.:** 304-55-2  
**Formal Name:** (2R,3S)-rel-2,3-dimercapto-butanedioic acid  
**Synonyms:** DMSA, Succimer  
**MF:** C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>S<sub>2</sub>  
**FW:** 182.2  
**Purity:** ≥95%  
**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

meso-2,3-Dimercaptosuccinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the meso-2,3-dimercaptosuccinic acid in the solvent of choice, which should be purged with an inert gas. meso-2,3-Dimercaptosuccinic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of meso-2,3-dimercaptosuccinic acid in these solvents is approximately 10 mg/ml.

meso-2,3-Dimercaptosuccinic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, meso-2,3-dimercaptosuccinic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. meso-2,3-Dimercaptosuccinic acid has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

meso-2,3-Dimercaptosuccinic acid is a heavy metal chelator.<sup>1</sup> It reverses sodium arsenite-induced inhibition of pyruvate dehydrogenase (PDH) in mouse kidney homogenates (EC<sub>50</sub> = 0.25 mM). meso-2,3-Dimercaptosuccinic acid decreases cisplatin-induced increases in serum levels of platinum and blood urea nitrogen (BUN), as well as apoptosis in renal tubules of mice when administered at a dose of 100 μM/kg.<sup>2</sup> meso-2,3-Dimercaptosuccinic acid (90 mg/kg) decreases elevations in the activity of catalase and glucose-6-phosphate dehydrogenase (G6PDH) in RBCs from lead-exposed rats, and decreases the levels of lead in the cerebellum, hippocampus, liver, kidney, and blood in rats when administered at a dose of 100 mg/kg.<sup>3,4</sup> It decreases immobility time in the forced swim test in lead-exposed male, but not female, mice when administered at a dose of 50 mg/kg.<sup>5</sup> Formulations containing meso-2,3-dimercaptosuccinic acid have been used in the treatment of heavy metal poisoning.

### References

1. Aposhian, H.V., Hsu, C.-A., and Hoover, T.D. *Toxicol. Appl. Pharmacol.* **69(2)**, 206-213 (1983).
2. Yajima, Y., Kawaguchi, M., Yoshikawa, M., et al. *J. Pharmacol. Sci.* **134(2)**, 108-115 (2017).
3. Gürer, H., Özgünes, H., Neal, R., et al. *Toxicology* **128(3)**, 181-189 (1998).
4. Zhang, J., Wang, X.-F., Lu, Z.-B., et al. *Free Rad. Biol. Med.* **37(7)**, 1037-1050 (2004).
5. Stewart, P.W., Blaine, C., Cohen, M., et al. *Physiol. Behav.* **59(4-5)**, 849-855 (1996).

#### 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.

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