

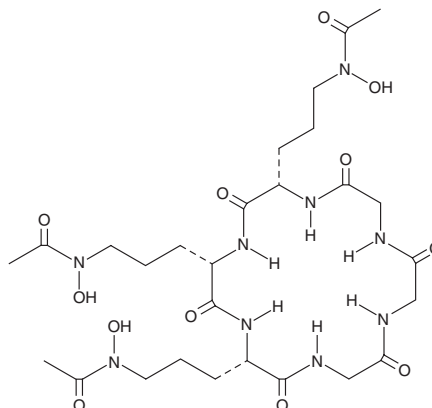
# PRODUCT INFORMATION



## Ferrichrome (iron-free)

Item No. 19528

**CAS Registry No.:** 34787-28-5  
**Formal Name:** cyclo(glycylglycylglycyl-N<sup>5</sup>-acetyl-N<sup>5</sup>-hydroxy-L-ornithyl-N<sup>5</sup>-acetyl-N<sup>5</sup>-hydroxy-L-ornithyl-N<sup>5</sup>-acetyl-N<sup>5</sup>-hydroxy-L-ornithyl)  
**Synonym:** Desferrichrome  
**MF:** C<sub>27</sub>H<sub>45</sub>N<sub>9</sub>O<sub>12</sub>  
**FW:** 687.7  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Fungus/*Ustilago sphaerogena*



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

### Laboratory Procedures

Ferrichrome (iron-free) is supplied as a solid. A stock solution may be made by dissolving the ferrichrome (iron-free) in water. The solubility of ferrichrome (iron-free) in water is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Ferrichrome is a hydroxamate siderophore produced by various fungi, including *U. sphaerogena*, that facilitates iron chelation and uptake by these organisms.<sup>1-3</sup> It can be utilized as a heterologous siderophore by bacteria, including *P. aeruginosa* and *V. parahaemolyticus*.<sup>4,5</sup> Ferrichrome (0.8 μM) inhibits proliferation of murine spleen mononuclear cells induced by concanavalin A (Item No. 14951) and reduces the number of concanavalin A-stimulated CD4<sup>+</sup> T cells expressing the IL-2 receptor.<sup>2</sup> It also inhibits heme-catalyzed oxidation of LDL by hydrogen peroxide in a concentration-dependent manner.<sup>3</sup>

### References

1. Emery, T. Role of ferrichrome as a ferric ionophore in *Ustilago sphaerogena*. *Biochemistry* **10**(8), 1483-1488 (1971).
2. Autenrieth, I.B., Hantke, K., and Heesemann, J. Immunosuppression of the host and delivery of iron to the pathogen: A possible dual role of siderophores in the pathogenesis of microbial infections? *Med. Microbiol. Immunol.* **180**(3), 135-141 (1991).
3. Pócsi, I., Jeney, V., Kertai, P., et al. Fungal siderophores function as protective agents of LDL oxidation and are promising anti-atherosclerotic metabolites in functional food. *Mol. Nutr. Food Res.* **52**(12), 1434-1447 (2008).
4. Hannauer, M., Barda, Y., Mislin, G.L.A., et al. The ferrichrome uptake pathway in *Pseudomonas aeruginosa* involves an iron release mechanism with acylation of the siderophore and recycling of the modified desferrichrome. *J. Bacteriol.* **192**(5), 1212-1220 (2010).
5. Funahashi, T., Tanabe, T., Shiuchi, K., et al. Identification and characterization of genes required for utilization of desferriferichrome and aerobactin in *Vibrio parahaemolyticus*. *Biol. Pharm. Bull.* **32**(3), 359-365 (2009).

**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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