

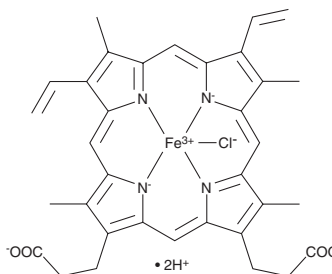
# PRODUCT INFORMATION



## Hemin chloride

Item No. 16487

**CAS Registry No.:** 16009-13-5  
**Formal Name:** (SP-5-13)-chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,8-dipropanoato(4-)-κN<sup>21</sup>, κN<sup>22</sup>, κN<sup>23</sup>, κN<sup>24</sup>]-ferrate(2-), dihydrogen  
**MF:** C<sub>34</sub>H<sub>30</sub>ClFeN<sub>4</sub>O<sub>4</sub> • 2H  
**FW:** 652.0  
**Purity:** ≥96%  
**UV/Vis.:** λ<sub>max</sub>: 397 nm  
**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

Hemin chloride is supplied as a crystalline solid. A stock solution may be made by dissolving the hemin chloride in the solvent of choice, which should be purged with an inert gas. Hemin chloride is soluble in diluted ammonia water and 0.1-1.0 N NaOH.

### Description

Hemin chloride is an oxidized form of heme that inhibits eukaryotic translation initiation factor 2α kinase 1 (eIF2αK1), a repressor of eIF-2α.<sup>1</sup> This alters the initiation of mRNA translation, evoking a wide array of cellular effects. Hemin chloride is used experimentally to induce the expression of heme oxygenase-1 in cells and in animals.<sup>2-4</sup> Heme extracted from blood is usually oxidized to hemin chloride.<sup>5,6</sup> In porphyria, disorders resulting from an increase in porphyrins, hemin chloride serves to activate feedback inhibition of δ-aminolevulinic acid synthase, reducing heme biosynthesis.<sup>6</sup>

### References

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2. Vesely, M.J.J., Exon, D.J., Clark, J.E., *et al.* Heme oxygenase-1 induction in skeletal muscle cells: hemin and sodium nitroprusside are regulators in vitro. *Am. J. Physiol.* **275(4 Pt 1)**, C1087-1094 (1998).
3. Lindenblatt, N., Bordel, R., Schareck, W., *et al.* Vascular heme oxygenase-1 induction suppresses microvascular thrombus formation in vivo. *Arterioscler. Thromb. Vasc. Biol.* **24(3)**, 601-606 (2004).
4. Botros, F.T., Prieto-Carrasquero, M.C., Martin, V.L., *et al.* Heme oxygenase induction attenuates afferent arteriolar autoregulatory responses. *Am. J. Physiol. Renal Physiol.* **295(4)**, F904-F911 (2008).
5. Labbé, R.F., Finch, C.A., Smith, N.J., *et al.* Erythrocyte protoporphyrin/heme ratio in the assessment of iron status. *Clin. Chem.* **25(1)**, 87-92 (1979). **32366**
6. Bissell, D.M. and Wang, B. Acute hepatic porphyria. *J. Clin. Transl. Hepatol.* **3(1)**, 17-26 (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.

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