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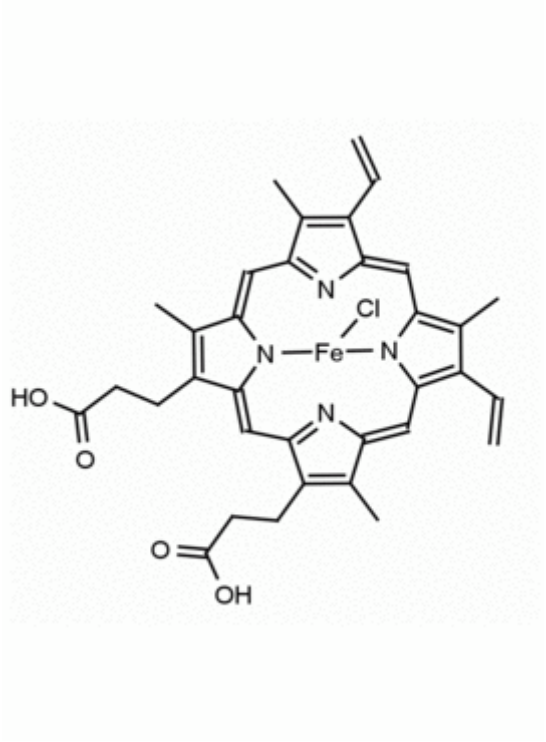
Technical Data Sheet
Catalog Number: **H651-9**

For research use only
Not intended or approved for diagnostic or therapeutic use.

Product Name: Hemin

Catalog Number: **H651-9**



Sizes Available: 1 g, 5 g, and larger sizes available

Molecular weight: 651.95 g/mol

Molecular Formula: $C_{34}H_{32}ClFeN_4O_4$

CAS Number: 16009-13-5

Storage: Store at room temperature, protected from light

Synonyms: Ferric Hemin, ferric iron ppIX chloride, ferriheme, Ferriporphyrin Chloride, Ferriprotoporphyrin, Ferriprotoporphyrin ix, Ferriprotoporphyrin IX chloride, haemin

Field of Interest: Natural Products Synthesis, Heme Containing Proteins, Hemoglobin, Myoglobin, Cytochrome C pathology, Complexes, Heme oxygenase

Background: Hemin is an iron-based porphyrin based natural product has a myriad of bioactivities where cells up-regulate heme oxygenase 1 (Hmox1, EC 1.14.99.3), which catabolizes heme to biliverdin, carbon monoxide, and free iron, and results in oxidative stress and cellular injury. [1,2] Aptamer-hemin complexes and other conjugates are found to mimic peroxidases and hemin is used in catalytic nanomaterials. [3,4,5]

References:

1) Poss, Kenneth D., Tonegawa, Susumu, Reduced stress defense in heme oxygenase 1-deficient cells Proceedings of the National Academy of Sciences of the United States of America (1997), 94(20), 10925-10930.

2) Yachie, Akihiro, Yo, Niida, Wada, Taizo, Igarashi, Noboru, Kaneda, Hisashi, Toma, Tomoko, Ohta, Kazuhide, Kasahara, Yoshihito, Koizumi, Shoichi, Oxidative stress causes enhanced endothelial cell injury in human heme oxygenase-1 deficiency, Journal of Clinical Investigation (1999), 103(1), 129-135. DOI:10.1172/JCI4165.

3) Travascio, Paola, Li, Yingfu, Sen, Dipankar, DNA-enhanced peroxidase activity of a DNA aptamer-hemin complex, Chemistry & Biology (1998), 5(9), 505-517. DOI:10.1016/S1074-5521(98)90006-0.

4) Lin, Youhui, Ren, Jinsong, Qu, Xiaogang, Catalytically active nanomaterials: A promising candidate for artificial enzymes, Catalytically active nanomaterials: A promising candidate for artificial enzymes, Accounts of Chemical Research (2014), 47(4), 1097-1105. DOI:10.1021/ar400250z

5) Guo, Yujing, Deng, Liu, Li, Jing, Guo, Shaojun, Wang, Erkang, Dong, Shaojun, Hemin-graphene hybrid nanosheets with intrinsic peroxidase-like activity for label-free colorimetric detection of single-nucleotide polymorphism, ACS Nano (2011), 5(2), 1282-1290. DOI:10.1021/nn1029586