

Bilirubin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Bilirubin

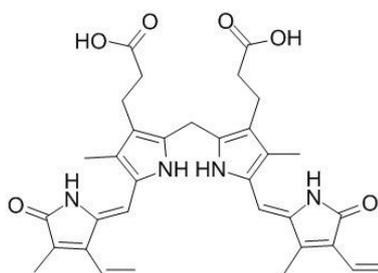
Catalog No.: CFN99948

Cas No.: 635-65-4

Purity: >=98%

M.F: C₃₃H₃₆N₄O

M.W: 584.66



Physical Description: Powder

Synonyms: Hematoidin; 2,17-Diethenyl-1,10,19,22,23,24-hexahydro-3,7,13,18-tetramethyl-1,19-dioxo-21H-biline-8,12-dipropanoic acid.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

The bile of *Pig*.

[Biological Activity or Inhibitors]

Bilirubin, the end product of heme catabolism in mammals, at micromolar concentrations in vitro, efficiently scavenges peroxy radicals generated chemically in either homogeneous solution or multilamellar liposomes; in liposomes, bilirubin suppresses the oxidation more than alpha-tocopherol, which is regarded as the best antioxidant of lipid peroxidation.^[1]

Bilirubin, an antioxidant, is neuroprotective at nanomolar concentrations.^[2]

Bilirubin can attenuate vascular endothelial activation and dysfunction.^[3]

Bilirubin can act as an effective agent to reduce mortality and counteract hypotension elicited by endotoxin through mechanisms involving a decreased NOS2 induction secondary to inhibition of NAD(P)H oxidase.^[4]

Bilirubin is a natural inhibitor of vascular smooth muscle cell proliferation, individuals with high-normal or supranormal levels of plasma bilirubin have a lesser incidence of atherosclerosis-related diseases.^[5]

Bilirubin and glutathione are prominent endogenous antioxidant cytoprotectants.^[6]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[7]

Mobile phase: Dimethyl sulfoxide-Acetonitrile-0.125 M Ammonium acetate=60:60:70

(pH=5.3) ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 452 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Stocker R, Yamamoto Y, McDonagh A F, *et al. Science*, 1987, 235(4792):1043-6.
- [2] Doré S, Takahashi M, Ferris C D, *et al. P. Natl. Acad. Sci.*, 1999, 96(5):2445-50.
- [3] Kawamura K, Ishikawa K, Wada Y, *et al. Arteriosci. Throm. Vas.*, 2005, 25(1):155-60.
- [4] Lanone S, Bloc S, Foresti R, *et al. Faseb Journal Official Publication of the Federation of American Societies for Experimental Biology*, 2005, 19(13):1890-2.
- [5] Ollinger R, Bilban M, Erat A, *et al. Circulation*, 2005, 112(7):1030-9.
- [6] Sedlak T W, Snyder S H. *P. Natl. Acad. Sci. U. S.A.*, 2009, 106(13):5171-6.
- [7] Li X D, You X Q, Dai W Y, *et al. Chinese Journal of Pharmaceutical Analysis*, 2009, 29(5):714-6.

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