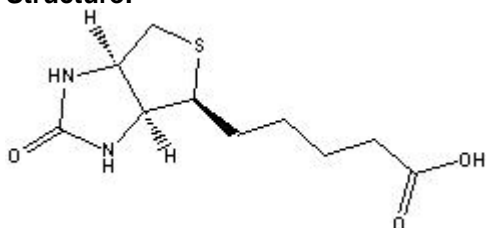


## TECHNICAL INFORMATION

Catalog Number: 101023, 101025, 194634

### D-Biotin

#### Structure:



**Molecular Formula:** C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>O<sub>3</sub>S

**Molecular Weight:** 244.3

**CAS #:** 58-85-5

**Synonyms:** Vitamin H; Coenzyme R; D-(+)-Biotin; Hexahydro-2-oxo-1H-thieno[3,4-d]imidazole-4-pentanoic acid; cis-Tetrahydro-2-oxothieno[3,4-d]imidazoline-4-valeric acid; cis-Hexahydro-2-oxo-1H-thieno[3,4]imidazole-4-valeric acid; Bios II

**Physical Description:** White powder or clear, colorless solution

**Isoelectric Point:** 3.5<sup>(1)</sup>

**Kd:** 1 x 10<sup>-15</sup> (2)

**Solubility:** Soluble in water (22 mg/100 ml), ethanol (80 mg/100 ml), more soluble in hot water and in dilute alkalis; insoluble in other common organic solvents.<sup>1</sup> Soluble in 2 M Ammonium hydroxide (50 mg/ml - clear, colorless solution), dimethylformamide (1.7 mg/ml). 1 ml of a DMF solution can then be added dropwise to 5 ml of PBS, pH 6.8. For cell culture purposes, either HCl or NaOH may be used to titrate biotin into solution. Moderately acid and neutral solutions are stable for several months; alkaline solutions are less stable, but appear reasonably stable up to a pH of about 9; aqueous solutions are very susceptible to mold growth; acid solutions can be heat sterilized.<sup>1</sup>

**Description:** D-Biotin is a growth factor present in small amounts in every living cell.<sup>1</sup> It is involved in naturally occurring carboxylation reactions. It occurs mainly bound to proteins or polypeptides.<sup>1</sup> It is more abundant in the liver, kidney, pancreas, yeast and milk. Biotin levels are higher in cancerous tumors than in normal tissues.<sup>1</sup> It is inactivated by binding to avidin.<sup>1</sup>

#### Availability:

Catalog Number	Description	Size
101023	D-Biotin	100 mg 500 mg 1 g 5 g
101025	D-Biotin Solution, 25 ug/ml in cell culture grade water. Each ampule contains 2.14 ml	6 x 1 amp
194634	D-Biotin, cell culture reagent	500 mg 1 g 5 g

#### References:

- Merck Index, 12th Ed., No. 1272.
- Methods in Enzymology, v. 184, 3 (1990).
- Bayer, E. and Uilchek, M., Methods Enzymol., v. 34, 265-267 (1974).
- Katsuki, H., Korte, F. and Goto, M. (eds.), Antibiotics, Vitamins and Hormones, Stuttgart (1977).
- Knappe, J., Annu. Review Biochem., v. 39, 757-756 (1970).
- Murthy, P.N.A. and Mistry, S.P., Prog. Food Nutr. Sci., v. 2, 405 (1977).