Catalog Number: 101023, 101025, 194634

D-Biotin

Structure:

Molecular Formula: $C_{10}H_{16}N_2O_3S$

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(1)

Kd: 1×10^{-15} (2)

Solubility: Soluble in water (22 mg/100 ml), ethanol (80 mg/100 ml), more soluble in hot water and in dilute alkalies; insoluble in other common organic solvents.[1] 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.[1]

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

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	6 x 1 amp

	culture grade water. Each ampule contains 2.14 ml	
194634	D-Biotin, cell culture reagent	500 mg 1 g 5 g

References:

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