

PRODUCT INFORMATION



D-Pantothenic Acid (sodium salt)

Item No. 17288

CAS Registry No.: 867-81-2

Formal Name: N-[(2R)-2,4-dihydroxy-3,3-dimethyl-1-oxobutyl]-β-alanine, monosodium salt

Synonym: Vitamin B₅

MF: C₉H₁₆NO₅ • Na

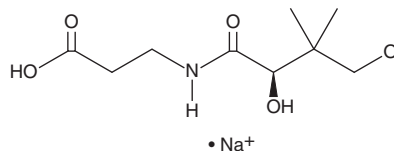
FW: 241.2

Purity: ≥98%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

D-Pantothenic Acid (sodium salt) is supplied as a crystalline solid. Aqueous solutions of D-Pantothenic Acid (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of D-Pantothenic Acid (sodium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Pantothenic acid (vitamin B₅) is a precursor in the biosynthesis of coenzyme A (Item No. 16147), which is an essential cofactor functioning as an acyl group carrier and carbonyl-activating group for the citric acid cycle and fatty acid metabolism.^{1,2} Two enantiomers of pantothenic acid exist, D- or L-form. D-Pantothenic acid (sodium salt) is a sodium salt form of the biologically active enantiomer of vitamin B₅ and is used in the synthesis of coenzyme A.³ The L-form of pantothenic acid is biologically inactive and has been shown to act as an antagonist of D-pantothenic acid.⁴

References

1. Jackowski, S. Biosynthesis of pantothenic acid and coenzyme A., Chapter 44, in *Escherichia coli* and *Salmonella typhimurium*: Cellular and molecular biology. Neidhardt, F.C., Curtiss, R., Gross, C.A. *et al.*, editors, editors, American Society for Microbiology, Washington D.C., 687-694 (1996).
2. Leonardi, R., Zhang, Y.-M., Rock, C.O., *et al.* Coenzyme A: Back in action. *Prog. Lipid Res.* **44**(2-3), 125-153 (2005).
3. Shibata, K., Kaneko, M., and Fukuwatari, T. D-pantethine has vitamin activity equivalent to D-pantothenic acids for recovering from a deficiency of D-pantothenic acid in rats. *J. Nutr. Sci. Vitaminol. (Tokyo)* **59**(2), 93-99 (2013).
4. Kimura, S., Furukawa, Y., Wakasugi, J., *et al.* Antagonism of L(-)pantothenic acid on lipid metabolism in animals. *J. Nutr. Sci. Vitaminol. (Tokyo)* **26**(2), 113-117 (1980).

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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