



Product Information

Phosvitin from egg yolk

Product Number **P 1253**
Storage Temperature -0 °C

Product Description

Molecular Weight: 34 kDa²
CAS Number: 9008-96-2

Phosphovitin is a phosphoglycoprotein and represents the major protein component of egg yolk. It contains 6.5% carbohydrate which consists of 6 hexose residues, 5 glucosamine residues, and 2 sialic acid residues per molecule. The carbohydrate moiety is bound through an asparagine residue (N-linked). The phosvitin sequence of 216 amino acid residues contains 123 serine residues of which most are phosphorylated. Phosvitin contains 8-10% (w/w) phosphorus.^{1,2} As such, phosvitin is one of the most highly phosphorylated proteins in nature, and has been used as a phosphoprotein standard.³

Phosvitin from egg yolk is unique in that the secondary structure of it is deficient in both α -helix and β -sheet conformations when present in neutral (pH 7.0) aqueous solutions. At a pH of less than 2.0, however, it is converted to a β -sheet conformation. The β -sheet secondary structure is also predominant for phosvitin when it is lyophilized from a neutral aqueous solution.⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear solution.

References

1. Shainkin, R. and Perlmann G.E., Phosvitin, a phosphoglycoprotein. I. Isolation and characterization of a glycopeptide from phosvitin. *J. Biol. Chem.*, **246(7)**, 2278-2284 (1971).
2. Byrne, B.M., et al., Amino acid sequence of phosvitin derived from the nucleotide sequence of part of the chicken vitellogenin gene. *Biochemistry*, **23(19)**, 4275-4279 (1984).
3. Ilg, T., et al., Purification and structural characterization of a filamentous, mucin-like proteophosphoglycan secreted by *Leishmania* parasites. *J. Biol. Chem.*, **271**, 21583-21596 (1996).
4. Prescott, B., et al., A Raman spectroscopic study of hen egg yolk phosvitin: structures in solution and in the solid state. *Biochemistry*, **25(10)**, 2792-2798 (1986).

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