

phosvitin (D-5): sc-46681

BACKGROUND

Phosvitin (phosphovitin) is among the most highly phosphorylated proteins known in nature. It is a phosphoglycoprotein and is widely detected in vertebrate egg yolk where it is the major protein component. Phosvitin is produced in the liver where it is a fragment of a larger protein, vitellogenin, a protein in the blood of egg-laying animals. The phosvitin sequence of 216 amino acid residues contains more than 123 serine residues (over 50% of the total amino acid composition). Most of these serine residues are phosphorylated, suggesting that phosvitin may be useful as a phosphoserine standard. Under neutral conditions (pH 7.0), the secondary structure of phosvitin lacks both α -helix and β -sheet conformations, but under acidic conditions it converts to a β -sheet conformation. Phosvitin functions as a metal transporter and serves as an iron depository for growing embryos.

REFERENCES

1. Shainkin, R., et al. 1971. Phosvitin, a phosphoglycoprotein: composition and partial structure of carbohydrate moiety. *Arch. Biochem. Biophys.* 145: 693-700.
2. Shainkin, R., et al. 1971. Phosvitin, a phosphoglycoprotein. I. Isolation and characterization of a glycopeptide from phosvitin. *J. Biol. Chem.* 246: 2278-2284.
3. Schirm, J., et al. 1973. Post-translational phosphorylation of phosvitin. *FEBS Lett.* 30: 167-169.
4. Byrne, B.M., et al. 1984. Amino acid sequence of phosvitin derived from the nucleotide sequence of part of the chicken vitellogenin gene. *Biochemistry* 23: 4275-4279.
5. Prescott, B., et al. 1986. A Raman spectroscopic study of hen egg yolk phosvitin: structures in solution and in the solid state. *Biochemistry* 25: 2792-2798.
6. Castellani, O., et al. 2003. Egg yolk phosvitin: preparation of metal-free purified protein by fast protein liquid chromatography using aqueous solvents. *J. Chromatogr. B, Analyt. Technol. Biomed. Life Sci.* 791: 273-284.

SOURCE

phosvitin (D-5) is a mouse monoclonal antibody raised against full length phosvitin protein purified from egg yolk.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

phosvitin (D-5) is available conjugated to agarose (sc-46681 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46681 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46681 PE), fluorescein (sc-46681 FITC), Alexa Fluor[®] 488 (sc-46681 AF488), Alexa Fluor[®] 546 (sc-46681 AF546), Alexa Fluor[®] 594 (sc-46681 AF594) or Alexa Fluor[®] 647 (sc-46681 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-46681 AF680) or Alexa Fluor[®] 790 (sc-46681 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

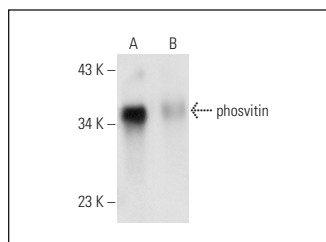
phosvitin (D-5) is recommended for detection of phosvitin of avian origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of phosvitin: 34 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



phosvitin (D-5): sc-46681. Western blot analysis of untreated (A) and λ -phosphatase-treated (B) purified chicken (egg yolk) phosvitin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.