

Protein S (C-5): sc-271400

BACKGROUND

Protein S (PROS) is a vitamin K-dependent plasma protein that inhibits blood clotting by serving as a cofactor for activated protein C (APC) and facilitates clearance of early apoptotic cells. In the plasma, circulating Protein S becomes inactive upon complexing with C4b-binding protein (C4BP); 60-70% of Protein S circulates in complex with C4BP. Calcium-dependent association of C4BP-Protein S with apoptotic cells influences the regulation of complement activation. Protein S has APC-independent anticoagulant activity through direct inhibition of prothrombin activation via interactions with Factor X A, Factor V A and phospholipids. Autosomal dominant Protein S deficiency (levels 15 to 37% of normal) correlates with severe recurrent venous thrombosis.

REFERENCES

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2. DiScipio, R.G. and Davie, E.W. 1979. Characterization of Protein S, a γ -carboxyglutamic acid containing protein from bovine and human plasma. *Biochemistry* 18: 899-904.
3. Dahlback, B. and Stenflo, J. 1981. High molecular weight complex in human plasma between vitamin K dependent Protein S and complement component C4b-binding protein. *Proc. Nat. Acad. Sci. USA* 78: 2512-2516.
4. Comp, P.C. and Esmon, C.T. 1984. Recurrent venous thromboembolism in patients with a partial deficiency of Protein S. *N. Engl. J. Med.* 311: 1525-1528.
5. Broekmans, A.W., et al. 1985. Hereditary Protein S deficiency and venous thromboembolism. A study in three Dutch families. *Thromb. Haemost.* 53: 273-277.
6. Andersen, B.D., et al. 2001. Characterization and structural impact of five novel PROS1 mutations in 11 Protein S-deficient families. *Thromb. Haemost.* 86: 1392-1399.
7. Sere, K.M., et al. 2001. Purified Protein S contains multimeric forms with increased APC-independent anticoagulant activity. *Biochemistry* 40: 8852-8860.
8. Webb, J.H., et al. 2002. Vitamin K-dependent Protein S localizing complement regulator C4b-binding protein to the surface of apoptotic cells. *J. Immunol.* 169: 2580-2586.
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CHROMOSOMAL LOCATION

Genetic locus: PROS1 (human) mapping to 3q11.1.

SOURCE

Protein S (C-5) is a mouse monoclonal antibody raised against amino acids 81-170 of Protein S of human origin.

RESEARCH USE

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

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.

APPLICATIONS

Protein S (C-5) is recommended for detection of Protein S of human 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).

Suitable for use as control antibody for Protein S siRNA (h): sc-63328, Protein S shRNA Plasmid (h): sc-63328-SH and Protein S shRNA (h) Lentiviral Particles: sc-63328-V.

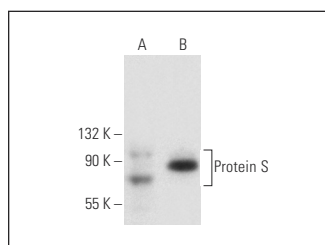
Molecular Weight of Protein S: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or Protein S (h): 293 Lysate: sc-111877.

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



Protein S (C-5): sc-271400. Western blot analysis of Protein S expression in non-transfected: sc-110760 (A) and human Protein S transfected: sc-111877 (B) 293 whole cell lysates.

STORAGE

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

PROTOCOLS

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