SANTA CRUZ BIOTECHNOLOGY, INC.

Protein C (BDI540): sc-59652



BACKGROUND

Protein C is a vitamin K-dependent plasma protein that is produced in the liver and made up of two polypeptide chains. It is an important anti-coagulant activated by Thrombin bound to an endothelial surface receptor and it enzymatically cleaves activated forms of Factors V and VIII, thus inhibiting blood coagulation. Protein C is similar to the prothrombin group of blood coagulation factors in its primary structure. Normal protein C concentration in human plasma is approximately 1-3 mg/ml and the proenzyme concentration is approximately 3 μ g/ml. Protein C deficiency is associated with inherited thrombophilia, a rare genetic disorder that predisposes affected individuals to venous thrombosis and habitual abortion.

REFERENCES

- Griffin, J.H., Evatt, B., Zimmerman, T.S., Kleiss, A.J. and Wideman, C. 1982. Deficiency of Protein C in congenital thrombotic disease. J. Clin. Investig. 68: 1370-1373.
- Esmon, C.T. 1989. The roles of Protein C and thrombomodulin in the regulation of blood coagulation. J. Biol. Chem. 264: 4743-4746.
- Dahlbäck, B., Carlsson, M. and Svensson, P.J. 1993. Familial thrombophilia due to a previously unrecognized mechanism characterized by poor anticoagulant response to activated Protein C: prediction of a cofactor to activated Protein C. Proc. Nat. Acad. Sci. USA 90: 1004-1008.
- Bertina, R.M., Koeleman, B.P., Koster, T., Rosendaal, F.R., Dirven, R.J., de Ronde, H., van der Velden, P.A. and Reitsma, P.H. 1994. Mutation in blood coagulation Factor V associated with resistance to activated Protein C. Nature 369: 64-67.
- Dahlbäck, B. 1995. Inherited thrombophilia: resistance to activated Protein C as a pathogenic factor of venous thromboembolism. Blood 85: 607-614.
- Preston, F.E., Rosendaal, F.R., Walker, I.D., Briët, E., Berntorp, E., Conard, J., Fontcuberta, J., Makris, M., Mariani, G., Noteboom, W., Pabinger, I., Legnani, C., Scharrer, I., Schulman, S. and van der Meer, F.J. 1996. Increased fetal loss in women with heritable thrombophilia. Lancet 348: 913-916.
- Abu-Amero, K.K., Owaidah, T.M. and Al-Mahed, M. 2006. Severe type I Protein C deficiency with neonatal purpura fulminans due to a novel homozygous mutation in exon 6 of the Protein C gene. J. Thromb. Haemost. 4: 1152-1153.
- Brueckmann, M., Nahrup, A.S., Lang, S., Bertsch, T., Fukudome, K., Liebe, V., Kaden, J.J., Hoffmann, U., Borggrefe, M. and Huhle, G. 2006. Recombinant human activated Protein C upregulates the release of soluble fractalkine from human endothelial cells. Br. J. Haematol. 133: 550-557.
- 9. Esmon, C.T. 2006. Inflammation and the activated Protein C anticoagulant pathway. Semin. Thromb. Hemost. 1: 49-60.

CHROMOSOMAL LOCATION

Genetic locus: PROC (human) mapping to 2q14.3.

RESEARCH USE

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

SOURCE

Protein C (BDI540) is a mouse monoclonal antibody raised against purified full length native Protein C of human origin.

PRODUCT

Each vial contains 100 $\mu g~lgG_{2b}$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

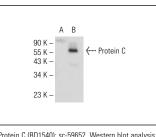
Protein C (BDI540) is recommended for detection of Protein C of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

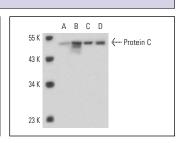
Suitable for use as control antibody for Protein C siRNA (h): sc-72054, Protein C shRNA Plasmid (h): sc-72054-SH and Protein C shRNA (h) Lentiviral Particles: sc-72054-V.

Molecular Weight of Protein C: 52 kDa.

Positive Controls: Protein C (h2): 293T Lysate: sc-170031, K-562 whole cell lysate: sc-2203 or ECV304 cell lysate: sc-2269.

DATA





Protein C (BD1540): sc-59652. Western blot analysis of Protein C expression in non-transfected: sc-117752 (A) and human Protein C transfected: sc-170031 (B) 293T whole cell lysates. Protein C (BD1540): sc-59652. Western blot analysis of Protein C expression in human liver tissue extract (A) and Hep G2 (B), K-562 (C) and ECV304 (D) whole cell lusates

STORAGE

Store at 4° C, **D0 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.