

Prothrombin (h): 293T Lysate: sc-177784

BACKGROUND

Hemostasis following tissue injury involves the deployment of essential plasma procoagulants (Prothrombin and Factors X, IX, V and VIII), which mediate a blood coagulation cascade that leads to the formation of insoluble Fibrin clots and the promotion of platelet aggregation. Proteolytic cleavage of Prothrombin (Factor II) at residue 44 leads to formation of Thrombin in the first step of the coagulation cascade. Thrombin cleaves bonds between Arg and Gly and activates Factors V, VII, VIII and XIII in complex with thrombomodulin and Protein C. Thrombin maintains vascular integrity during development and postnatal life and coordinates connective tissue proteins by stimulating fibroblast procollagen production.

REFERENCES

1. Davey, M.G. and Luscher, E.F. 1967. Actions of Thrombin and other coagulant and proteolytic enzymes on blood platelets. *Nature* 216: 857-858.
2. Davie, E.W. and Fujikawa, K. 1975. Basic mechanisms in blood coagulation. *Annu. Rev. Biochem.* 44: 799-829.
3. Elion, J., Boissel, J.P., Le Bonniec, B., Bezeaud, A., Jandrot-Perrus, M., Rabiet, M.J. and Guillin, M.C. 1986. Proteolytic derivatives of Thrombin. *Ann. N.Y. Acad. Sci.* 485: 16-26.
4. Royle, N., Irwin, D.M., Koschinsky, M.L., MacGillivray, R.T. and Hamerton, J.L. 1987. Human genes encoding Prothrombin and ceruloplasmin map to 11p11-q12 and 3q21-24, respectively. *Somat. Cell Mol. Genet.* 13: 285-292.
5. Davie, E.W., Fujikawa, K. and Kisiel, W. 1991. The coagulation cascade: initiation, maintenance, and regulation. *Biochemistry* 30: 10363-10370.
6. Chambers, R.C., Dabbagh, K., McAnulty, R.J., Gray, A.J., Blanc-Brude, O.P. and Laurent, G.J. 1998. Thrombin stimulates fibroblast procollagen production via proteolytic activation of protease-activated receptor 1. *Biochem. J.* 333: 121-127.
7. Huang, Y.Q., Li, J.J. and Karparkin, S. 2000. Thrombin inhibits tumor cell growth in association with upregulation of p21^{WAF/Cip1} and caspases via a p53-independent, Stat1-dependent pathway. *J. Biol. Chem.* 275: 6462-6468.
8. LocusLink Report (LocusID: 2147). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: F2 (human) mapping to 11p11.2.

PRODUCT

Prothrombin (h): 293T Lysate represents a lysate of human Prothrombin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

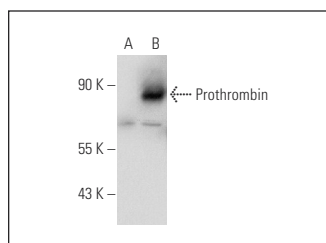
APPLICATIONS

Prothrombin (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Prothrombin antibodies. Recommended use: 10-20 µl per lane.

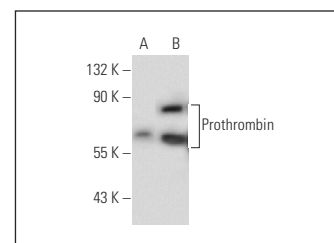
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Prothrombin (AHP-5013): sc-73470 is recommended as a positive control antibody for Western Blot analysis of enhanced human Prothrombin expression in Prothrombin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



Prothrombin (AHP-5013): sc-73470. Western blot analysis of Prothrombin expression in non-transfected: sc-117752 (A) and human Prothrombin transfected: sc-177784 (B) 293T whole cell lysates.



Prothrombin (28H5): sc-69769. Western blot analysis of Prothrombin expression in non-transfected: sc-117752 (A) and human Prothrombin transfected: sc-177784 (B) 293T whole cell lysates.

PROTOCOLS

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