

Thrombin API (M-87): sc-33770

BACKGROUND

Homeostasis 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) leads to formation of a 36 amino acid Thrombin light chain (LC; amino acids 328-363) and a 259 amino acid Thrombin heavy chain (HC; amino acids 364-622). In the first step of the coagulation cascade Thrombin cleaves bonds after Arg-|-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., et al. 1967. Actions of Thrombin and other coagulant and proteolytic enzymes on blood platelets. *Nature* 216: 857-858.
2. Davie, E.W., et al. 1975. Basic mechanisms in blood coagulation. *Annu. Rev. Biochem.* 44: 799-829.
3. Elion, J., et al. 1986. Proteolytic derivatives of Thrombin. *Ann. N.Y. Acad. Sci.* 485: 16-26.
4. Royle, N., et al. 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., et al. 1991. The coagulation cascade: initiation, maintenance, and regulation. *Biochem.* 30: 10363-10370.
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7. Huang, Y.Q., et al. 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-q12; F2 (mouse) mapping to 2 E1.

SOURCE

Thrombin API (M-87) is a rabbit polyclonal antibody raised against amino acids 71-157 mapping near the N-terminus of Thrombin Activation Peptide 1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PROTOCOLS

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

APPLICATIONS

Thrombin API (M-87) is recommended for detection of Thrombin API and Prothrombin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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); does not detect APII, LC or HC.

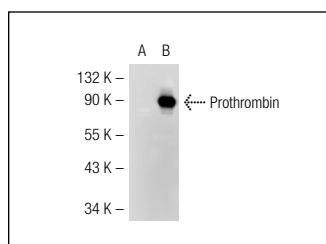
Suitable for use as control antibody for Prothrombin siRNA (m): sc-40414.

Molecular Weight of Thrombin API: 70/31 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Thrombin API (M-87): sc-33770. Western blot analysis of Thrombin expression in non-transfected: sc-117752 (A) and mouse Prothrombin transfected: sc-127389 (B) 293T 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.

RESEARCH USE

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


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Try **Thrombin API (D-9): sc-376933** or **Thrombin API (B-2): sc-373848**, our highly recommended monoclonal alternatives to Thrombin API (M-87).