SANTA CRUZ BIOTECHNOLOGY, INC.

cleaved Prothrombin (h44): sc-23327

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 after Arg-|-Gly and activates Factors V, VII, VIII, 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. NY 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: 285-92.
5. Davie, E.W., et al. 1991. The coagulation cascade: initiation, maintenance, and regulation. Biochemistry 30: 10363-10370.
6. Chambers, R.C., et al. 1998. Thrombin stimulates fibroblast Procollagen production via proteolytic activation of protease-activated receptor 1. Biochem. J. 333: 121-127.
7. Huang, Y.Q., et al. 2000. Thrombin inhibits tumor cell growth in association with up-regulation of p21 (waf/cip1) and caspases via a p53-independent, STAT-1-dependent pathway. J. Biol. Chem. 275: 6462-6468.
8. LocusLink Report (LocusID: 2147). http://www.ncbi.nlm.nih.gov/LocusLink/

SOURCE

cleaved Prothrombin (h44) is a goat polyclonal antibody raised against a short amino acid sequence containing the neoepitope at a short amino acid sequence containing the neoepitope at Ala 44 of Prothrombin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23327 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

PROTOCOLS

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

APPLICATIONS

cleaved Prothrombin (h44) is recommended for detection of mature Prothrombin and API of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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