

Thrombin (F-1): sc-271449

BACKGROUND

Hemostasis following tissue injury involves the deployment of essential plasma procoagulants (prothrombin and factors X, IX, V and VIII), which are involved in a blood coagulation cascade that leads to the formation of insoluble Fibrin clots and the promotion of platelet aggregation. Coagulation Factor 2, also designated Prothrombin or Factor 2, is proteolytically cleaved to form Thrombin in the first step of the coagulation cascade. Thrombin is a serine protease that influences cellular mitogenesis, tumor growth and metastasis, and can initiate platelet aggregation and secretion. Thrombin also influences vascular integrity during development and postnatal life. During the mechanism of wound healing, Thrombin may coordinate connective tissue proteins by stimulating fibroblast procollagen production.

CHROMOSOMAL LOCATION

Genetic locus: F2 (human) mapping to 11p11.2; F2 (mouse) mapping to 2 E1.

SOURCE

Thrombin (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 331-376 within an internal region of Thrombin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Thrombin (F-1) is available conjugated to agarose (sc-271449 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271449 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271449 PE), fluorescein (sc-271449 FITC), Alexa Fluor[®] 488 (sc-271449 AF488), Alexa Fluor[®] 546 (sc-271449 AF546), Alexa Fluor[®] 594 (sc-271449 AF594) or Alexa Fluor[®] 647 (sc-271449 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271449 AF680) or Alexa Fluor[®] 790 (sc-271449 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271449 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Thrombin (F-1) is recommended for detection of Prothrombin precursor and mature chain, and Thrombin LC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

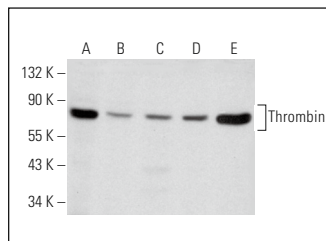
Molecular Weight of Thrombin: 74 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, AML-193 whole cell lysate: sc-364182 or FHs 173We cell lysate: sc-2417.

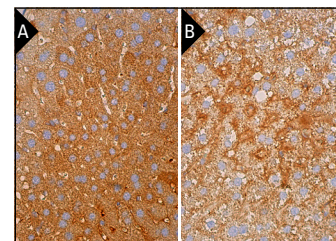
STORAGE

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

DATA



Thrombin (F-1): sc-271449. Western blot analysis of Thrombin expression in Hep G2 (A), AML-193 (B), FHs 173We (C), CCRF-CEM (D) and HL-60 (E) whole cell lysates.



Thrombin (F-1): sc-271449. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver (A) and rat liver (B) tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

- Kang, S. and Hah, S.S. 2014. Improved ligand binding by antibody-aptamer pincers. *Bioconjug. Chem.* 25: 1421-1427.
- Rabizadeh, E., et al. 2015. The cell-membrane prothrombinase, Fibrinogen-like protein 2, promotes angiogenesis and tumor development. *Thromb. Res.* 136: 118-124.
- Degani, G., et al. 2020. Prothrombin is a binding partner of the human receptor of advanced glycation end products. *J. Biol. Chem.* 295: 12498-12511.
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- Figueira, I., et al. 2021. Picturing breast cancer brain metastasis development to unravel molecular players and cellular crosstalk. *Cancers* 13: 910.
- Sridevi Gurubaran, I., et al. 2021. Oxidative stress and mitochondrial damage in dry age-related macular degeneration like NFE2L2/PGC-1α^{-/-} mouse model evoke complement component C5a independent of C3. *Biology* 10: 622.
- Wu, L., et al. 2022. LncRNA TCONS_00145741 knockdown prevents Thrombin-induced M1 differentiation of microglia in intracerebral hemorrhage by enhancing the interaction between DUSP6 and JNK. *Front. Cell Dev. Biol.* 9: 684842.
- Zhao, B., et al. 2022. A novel oncotherapy strategy: direct Thrombin inhibitors suppress progression, dissemination and spontaneous metastasis in non-small cell lung cancer. *Br. J. Pharmacol.* 179: 5056-5073.
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RESEARCH USE

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