Human Coagulation Factor II/Thrombin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1148

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Coagulation Factor II/Thrombin in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) PROC is observed, and less than 1% cross-reactivity with rhFactor X, recombinant mouse (rm) Factor X and rmPROC is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Coagulation Factor II/Thrombin
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

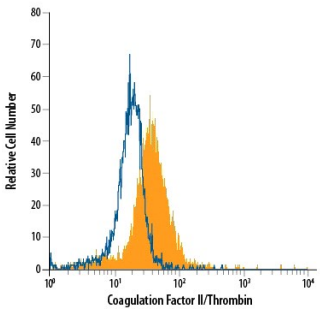
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Human Coagulation Factor II/Thrombin (Catalog # 2196-SE)
Flow Cytometry	2.5 µg/10^6 cells	See Below
Simple Western	10 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

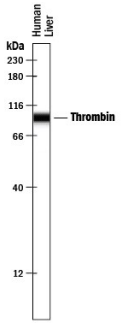
DATA

Flow Cytometry



Detection of Coagulation Factor II/Thrombin in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Goat Anti-Human Coagulation Factor II/Thrombin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1148, filled histogram) or isotype control antibody (Catalog # AB-108-C, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0107).

Simple Western



Detection of Human Coagulation Factor II/Thrombin by Simple Western™. Simple Western lane view shows lysates of human liver tissue, loaded at 0.2 mg/mL. A specific band was detected for Coagulation Factor II/Thrombin at approximately 95 kDa (as indicated) using 10 µg/mL of Goat Anti-Human Coagulation Factor II/Thrombin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1148) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Coagulation Factor II, commonly known as thrombin, is an essential component of the coagulation cascade in which it converts fibrinogen to fibrin, activates factors V, VII, VIII, XIII and forms complexes with protein C and thrombomodulin (1). It also activates platelets and regulates the behavior of additional cells through protease-activated receptors (PARs) (2). It may have either protective or deleterious functions, depending on the level and location (3). Its activity is regulated by endogenous inhibitors such as anti-thrombin III (serpin C1) or heparin cofactor II (serpin D1). A plasma serine protease, thrombin is synthesized in the liver as a 622 amino acid precursor with a 24 amino acid signal peptide. Cleavage by itself or by similar enzymes converts the proenzyme to three forms designated as α-, β- and γ-thrombin. Composed of a disulfide bond-linked dimer of the light chain (A) (residues 328-363) and the heavy chain (B) (residues 364-622), α-thrombin displays the diverse functions as described above. In comparison, the further processed B chains of β- and γ-thrombin have no known physiological function, but retain most of the activity towards small synthetic substrates (4).

References:

1. Degen, S.J. and E.W. Davie (1987) Biochemistry **26**:6165.
2. Coughlin, S.R. (2000) Nature **407**:258.
3. Xi, G. *et al.* (2003) J. Neurochem. **84**:3.
4. Rydel, T.J. *et al.* (1994) J. Biol. Chem. **269**:22000.

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