Human Coagulation Factor VII Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2338

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Coagulation Factor VII in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 15% cross-reactivity with recombinant mouse Coagulation Factor VII and less than 1% cross-reactivity with recombinant human Coagulation Factor XA is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Coagulation Factor VII Ala39-Pro444 Accession # NP_062562
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

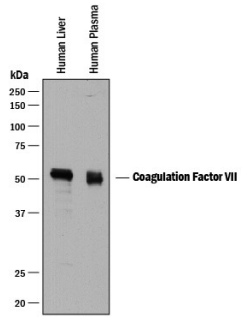
APPLICATIONS

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	2 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Coagulation Factor VII (Catalog # 2338-SE), see our available Western blot detection antibodies

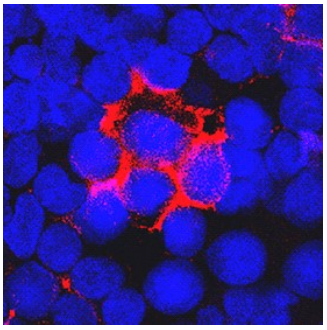
DATA

Western Blot



Detection of Human Coagulation Factor VII by Western Blot. Western blot shows human plasma and lysate of human liver tissue. PVDF membrane was probed with 2 µg/mL of Goat Anti-Human Coagulation Factor VII Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2338) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Coagulation Factor VII at approximately 50-55 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



Coagulation Factor VII in human PBMCs. Coagulation Factor VII was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Goat Anti-Human Coagulation Factor VII Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2338) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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 Factors VII and VIIa refer to the pro and active forms of the same protease, respectively (1). Factor VII is synthesized in the liver and circulates in the plasma where it binds to tissue factor (TF), an integral membrane protein found in a variety of cell types. Upon binding of TF, Factor VII is rapidly converted into VIIa. The resulting 1:1 complex of VIIa and TF initiates the coagulation pathway and has also important coagulation-independent functions such as angiognesis (2). The cleavage and activation of Coagulation Factors VII, IX, and X by VIIa:TF is phospholipid-dependent whereas the cleavage of small peptide substrates is not (1). The predominant splicing variant of Factor VII in normal liver corresponds to the 444 amino acid precursor (3, 4). After a signal peptide (residues 1-38), the mature chain can be further processed into the light chain (residues 39-190) and the heavy chain (residues 191-444). The purified rhFactor VII corresponds to the mature chain, which can be processed and activated by treatment with thermolysin and binding with recombinant human Tissue Factor (R&D Systems, Catalog # 2339-PA) under the conditions described above.

References:

1. Morrissey, J.H. (2004) in *Handbook of Proteolytic Enzymes*, Barrett, A.J. *et al.* eds. p. 1659.
2. Versteeg, H.H. *et al.* (2003) Carcinogenesis **24**:1009.
3. Hagen, F.S. *et al.* (1986) Proc. Natl. Acad. Sci. USA **83**:2412.
4. O'Hara, P.J. *et al.* (1987) Proc. Natl. Acad. Sci. USA **84**:5158.

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