Human Coagulation Factor VII
Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 321605

Catalog Number: FAB23381V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Coagulation Factor VII in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) Kallikrein-1, -2, -3, -4, -5, -7, -8, -9, -10, -11, -12, -13, -14, -15, -B1, rhHGFA, rhFactor X, rhFactor XI, rhThrombin, rhuPA, or rhPROC is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 321605
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Coagulation Factor VII Ala39-Pro444 Accession # NP_062562
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10^6 cells	HASMC human aortic smooth muscle cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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 angiogenesis (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 rhTissue 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.

PRODUCT SPECIFIC NOTICES

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