

Factor XIIIa

Concentrated and Prediluted Monoclonal Antibody
901-357-060223

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M E D I C A L

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
Concentrate	CM 357 AK, CK	0.1, 1.0 mL	1:100	Van Gogh Yellow
Predilute	PM 357 AA	6.0 mL	Ready-to-use	N/A
intelliPATH FLX	IP 357 G10	10 mL	Ready-to-use	N/A
ONCORE Pro	OPAI 357 T60	60 tests	Ready-to-use	N/A
UltraLine – For BenchMark	AVI 357 G	6.0 mL	Ready-to-use	N/A
Q Series– For Leica BOND-III	ALI 357 G7	7.0 mL	Ready-to-use	N/A

Intended Use:

For In Vitro Diagnostic Use

Factor XIIIa [E980.1] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of Factor XIIIa protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

Summary and Explanation:

This is a monoclonal antibody to the A-subunit of human coagulation Factor XIII. Studies have shown it recognizes human Factor XIII A-chain in both reduced and non-reduced forms. It does not react with human Factor XIII B-chain or human Factor XII. Factor XIII is a beta-globulin found in plasma and is composed of two subunits. Factor XIII-A is the catalytic subunit and is a dimer of M.W. 160,000. According to studies, Factor XIII is present in plasma as an alpha2beta2 heterodimer (M.W. 320,000); whereas in platelets, only the alpha2 unit exists. Factor XIIIa is a dermal dendrocyte marker and shows variable reaction with these types of tumors (3,4). It can be used for histiocytic phenotyping and has been reported to mark capillary hemangiomas and tumors of the central nervous system (1-6). Factor XIIIa has also been used with CD34 to differentiate between dermatofibroma and dermatofibrosarcoma protuberans (3).

Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be employed. The one-step procedure will feature an enzyme-labeled polymer that binds to the primary antibody. A two-step procedure will feature a secondary antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind to the secondary antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human; others not tested

Clone: E980.1

Isotype: IgG1

Protein Concentration: Call for lot specific Ig concentration

Epitope/Antigen: Factor XIIIa C-terminus

Cellular Localization: Cytoplasmic

Positive Tissue Control: Dermatofibroma, placenta or skin

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative
Van Gogh Yellow (PD902)

Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Protocol Recommendations (intelliPATH FLX® and manual use):

Peroxide Block: Block for 5 minutes with Peroxidized 1.

Pretreatment: Perform heat retrieval using Diva or Reveal Decloaker. Refer to the Diva or Reveal Decloaker product data sheet for specific instructions.

Protein Block (Optional): Incubate for 5-10 minutes at RT with Background Punisher.

Primary Antibody: Incubate for 30 minutes at RT.

Probe: Incubate for 10 minutes at RT with a secondary probe.

Polymer: Incubate for 10-20 minutes at RT with a tertiary polymer.

Chromogen: Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

intelliPATH FLX Automated Slide Stainer:

IP357 is intended for use with the intelliPATH FLX. Refer to the User Manual for specific instructions for use. When using the intelliPATH FLX, peroxide block with intelliPATH FLX Peroxidase Blocking Reagent (IPB5000) may be performed following pretreatment.

Technical Note:

This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

Protocol Recommendations (ONCORE™ Pro Automated Slide Staining System):

OPAI357 is intended for use with the ONCORE Pro. Refer to the User Manual for specific instructions for use. Protocol parameters in the Protocol Editor should be programmed as follows:

Protocol Name: Factor XIIIa

Protocol Template (Description): Ms HRP Template 1

Dewaxing (DS Buffer Option): DS2-50

Antigen Retrieval (AR Option): AR1, high pH; 103°C

Block Option: Buffer

Reagent Name, Time, Temp.: Factor XIIIa, 30 min., 25°C

Protocol Recommendations (Ventana BenchMark ULTRA):

AVI357 is intended for use with the BenchMark ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

Template/Detection: OptiView DAB IHC

Pretreatment Protocol: CC1 64 minutes

Peroxidase: Pre-Primary Peroxidase Inhibitor

Primary Antibody: 32 minutes, 36°C



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Protocol Recommendations (Q Series – For Leica BOND-III):

ALI357 is intended for use with the Leica BOND-III. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

Protocol Name: IHC Protocol F

Detection: Bond Polymer Refine

HIER: 20 min with ER1

Peroxide Block: 5 min

Marker (Primary Antibody): 15 min

Post Primary: 8 min

Polymer: 8 min

Mixed DAB Refine: 10 min

Hematoxylin: 5 min

Limitations:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011

Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (7)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (8)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at <http://biocare.net>.

Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

References:

1. Probst-Cousin S, Rickert CH, Gullotta F. Factor XIIIa-immunoreactivity in tumors of the central nervous system. *Clin Neuropathol.* 1998 Mar;17(2):79-84.
2. Silverman JS, Tamsen A. High grade malignant fibrous histiocytomas have bimodal cycling populations of factor XIIIa + dendrophages and dedifferentiated mesenchymal cells possibly derived from CD34+ fibroblasts. *Cell Vis.* 1998 Jan;5(1):73-6.
3. Goldblum JR, Tuthill RJ. CD34 and factor-XIIIa immunoreactivity in dermatofibrosarcoma protuberans and dermatofibroma. *Am J Dermatopathol.* 1997 Apr;19(2):147-53.
4. Zelger BG, *et al.* Granular cell dermatofibroma. *Histopathology.* 1997 Sep;31(3):258-62.

References Cont'd:

5. Silverman JS, Lomvardias S. An unusual soft tissue tumor with features of angiomatoid malignant fibrous histiocytoma composed of bimodal CD34 and factor XIIIa positive dendritic cell subsets. CD34 and factor XIIIa in angiomatoid MFH. *Pathol Res Pract.* 1997;193(1):51-8.
6. Sanguenza OP, *et al.* Juvenile xanthogranuloma: a clinical, histopathologic and immunohistochemical study. *J Cutan Pathol.* 1995 Aug;22(4):327-35.
7. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
8. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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