



## Factor XIIIa

*IHC of Factor XIIIa on an FFPE Placenta Tissue*

**Description** Factor XIII or fibrin stabilizing factor is an enzyme of the blood coagulation system that crosslinks fibrin. When thrombin has converted fibrinogen to fibrin, the latter forms a proteinaceous network in which every E-unit is crosslinked to only one D-unit. Factor XIII is activated by thrombin into Factor XIIIa; its activation into Factor XIIIa requires calcium as a cofactor. Factor XIIIa has been identified in platelets, megakaryocytes, and fibroblast-like mesenchymal or histiocytic cells present in the placenta, uterus, and prostate; it is also present in monocytes, macrophages and dermal dendritic cells.

Anti-Factor XIIIa has been found to be useful in differentiating between Dermatofibroma (90% (+)), Dermatofibrosarcoma Protuberans (25%(+)) and Desmoplastic Malignant Melanoma (0%(+)). Factor XIIIa positivity is also seen in Capillary Hemangioblastoma (100%(+)), Hemangioendothelioma (100%(+)), Hemangiopericytoma (100%(+)), Xanthogranuloma (100%(+)), Xanthoma (100%(+)), Hepatocellular Carcinoma (93%(+)), Glomus Tumor (80%(+)), and Meningioma 80%(+).

<b>Antibody Type</b>	Mouse Monoclonal	<b>Clone</b>	AC-1A1
<b>Isotype</b>	IgG1	<b>Reactivity</b>	Paraffin, Frozen
<b>Localization</b>	Cytoplasmic	<b>Control</b>	Dermatofibroma, Placenta
<b>Storage</b>	Store at 2°-8°C	<b>Stability</b>	2 years

For long-term storage of the concentrated antibody, it is recommended that aliquots of the antibody be frozen at -20°C in glycerol 50% (frost-free freezers are not recommended). Repeated freezing and thawing must be avoided. Dilute using an antibody diluent such as ImmunoDetector Protein Block/Antibody Diluent (BSB 0040 and BSB 0041) or ImmunoDNA Background Blocker (BSB 0103-BSB 0107).

**Presentation** Anti-Factor XIIIa is a mouse monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Availability	Catalog No.	Antibody Type	Dilution	Volume/QTY
	BSB 5505	Prediluted	Ready-To-Use	3.0 ml
	BSB 5506	Prediluted	Ready-To-Use	7.0 ml
	BSB 5507	Prediluted	Ready-To-Use	15.0 ml
	BSB 5508	Concentrated	1:50-1:250	0.1 ml
	BSB 5509	Concentrated	1:50-1:250	0.5 ml
	BSB 5510	Concentrated	1:50-1:250	1.0 ml
	BSB 5511	Control Slides		5

**Note:** For concentrated antibodies, please centrifuge prior to use to ensure recovery of all product.

- References**
1. Nemes Z, *Hum Pathol.* 1992;Jul; 23(7):805-10
  2. Demetris AJ, Minervini M, et al. *Am J Surg Pathol.* 1997;Mar;21(3):263-70
  3. Horenstein MG, et al. *Am J Surg Pathol.* 2000;Jul;24(7):996-1003
  4. Kraus MD, et al. *Am J Dermatopathol.* 2001;Apr;23(2):104-11
  5. Dehner LP, *Am J Surg Pathol.* 2003;May;27(5):579-93
  6. Deguchi M, et al. *Arch Dermatol Res.* 2002;Oct;294(7):297-302

**Protocol** Suggested protocol on reverse

## Recommended Immunohistochemical Protocol

- Pretreatment**
1. Cut and mount 3-4 micron formalin-fixed paraffin-embedded tissues on positive charged slides.
  2. Air dry for 2 hours at 58° C.
  3. Deparaffinize, dehydrate and rehydrate tissues.
  4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as **ImmunoDNA Retriever with Citrate** (BSB 0020-BSB 0023) or **EDTA** (BSB 0030-BSB 0033).
  5. Any of three heating methods may be used:
    - a. **Electric Pressure Cooker**  
Place standoff rack at base of pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high, and incubate for 15 minutes. Open and immediately transfer slides to room temperature.
    - b. **Water Bath Method**  
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a water bath set at 95°-99° C. Incubate for 30-60 minutes.
    - c. **Conventional Steamer Method**  
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a Steamer, cover and steam for 30-60 minutes.
  6. After heat treatment, transfer slides in **ImmunoDNA Retriever with Citrate** or **EDTA** to room temperature and let stand for 15-20 minutes.
  7. Wash slides with IHC wash buffer or DI water.
  8. Continue IHC staining protocol.

## Immunohistochemical Protocol

Step	ImmunoDetector (AP or HRP)	PolyDetector (AP or HRP)
Peroxidase/AP Block	5 minutes	5 minutes
Primary Antibody	30 minutes	45 minutes
Secondary Biotinylated Link	10 minutes	Not Applicable
AP or HRP Label	10 minutes	45 minutes
Substrate-Chromogen	5-10 minutes	10 minutes
Counterstaining	Time varies with counterstain	Time varies with counterstain

