



# Alpha-Fetoprotein

*IHC of AFP on an FFPE Fetal Liver Tissue*

**Description** Alpha-fetoprotein (AFP) is a protein which in humans is encoded by the AFP gene. This gene encodes alpha-fetoprotein, a major plasma protein produced by the yolk sac and the liver during fetal life. This protein is thought to be the fetal counterpart of serum albumin, and the alpha-fetoprotein and albumin genes are present in tandem on chromosome 4.

Positive staining with this antibody is seen in hepatocytes of fetal liver and hepatoma. Since only traces of AFP are found in adult serum, elevated levels suggest either a benign or malignant lesion of the liver, a Yolk-Sac Carcinoma, or one of a few other tumors. In conjunction with elevated serum levels, AFP has been immunohistochemically demonstrated in Yolk-Sac Carcinomas in gonadal and extragonadal sites of hepatic malignancies and a few other neoplasms.

<b>Antibody Type</b>	Rabbit Polyclonal	<b>Clone</b>	N/A
<b>Isotype</b>	N/A	<b>Reactivity</b>	Paraffin, Frozen
<b>Localization</b>	Cytoplasmic	<b>Control</b>	Fetal Liver
<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** NGFR 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 5050	Prediluted	Ready-To-Use	3.0 ml
	BSB 5051	Prediluted	Ready-To-Use	7.0 ml
	BSB 5052	Prediluted	Ready-To-Use	15.0 ml
	BSB 5053	Concentrated	1:100-1:500	0.1 ml
	BSB 5054	Concentrated	1:100-1:500	0.5 ml
	BSB 5055	Concentrated	1:100-1:500	1.0 ml
	BSB 5056	Control Slides		5

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

- References**
- Jacobsen GK, et al. *Am J Surg Pathol*. 1981;5:257-66
  - Peyrol S, et al. *Digestion*. 1978;18:351-370
  - Tsung SH, *Arch Pathol Lab Med*. 1977;101:572-574
  - Goodman ZD, et al. *Cancer*. 1985;55:124-135
  - Roth LM, et al. *Cancer*. 1976;37:812-820
  - Leong ASY, et al. *Manual of Diagnostic Antibodies for Immunohistology*. 1999

**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

