Alpha-Fetoprotein

IHC of AFP on an FFPE Fetal Liver Tissue

Intended Use  For In Vitro Diagnostic Use

Summary and Explanation
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.

Antibody Type  Rabbit Polyclonal
Isotype  IgG
Localization  Cytoplasmic
Clone  N/A
Reactivity  Paraffin, Frozen
Control  Fetal Liver, Hepatocellular Carcinoma

Presentation
Alpha-Fetoprotein is a purified immunoglobulin fraction of rabbit antiserum that is filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Availability

<table>
<thead>
<tr>
<th>Catalog No.</th>
<th>Antibody Type</th>
<th>Dilution</th>
<th>Volume/QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSB 5050</td>
<td>Tinto Prediluted</td>
<td>Ready-To-Use</td>
<td>3.0 ml</td>
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<td>BSB 5051</td>
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<td>Ready-To-Use</td>
<td>7.0 ml</td>
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<td>BSB 5052</td>
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<td>15.0 ml</td>
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<td>BSB 5053</td>
<td>Concentrated</td>
<td>1:100-1:500</td>
<td>0.1 ml</td>
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<tr>
<td>BSB 5054</td>
<td>Concentrated</td>
<td>1:100-1:500</td>
<td>0.5 ml</td>
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<tr>
<td>BSB 5055</td>
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<tr>
<td>BSB 5056</td>
<td>Control Slides</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

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

Storage  Store at 2°-8°C

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).

The sodium azide (NaN3) used as a preservative, is toxic if ingested.

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 tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA, and place in the 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

<table>
<thead>
<tr>
<th>Step</th>
<th>ImmunoDetector AP/HRP</th>
<th>PolyDetector AP/HRP</th>
<th>PolyDetector Plus HRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peroxidase/AP Blocker</td>
<td>5 minutes</td>
<td>5 minutes</td>
<td>5 minutes</td>
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<tr>
<td>Primary Antibody</td>
<td>30 minutes</td>
<td>45 minutes</td>
<td>30 minutes</td>
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<tr>
<td>1st Step Detection</td>
<td>10 minutes</td>
<td>45 minutes</td>
<td>10 minutes</td>
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<tr>
<td>2nd Step Detection</td>
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<td>Not Applicable</td>
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<tr>
<td>Substrate-Chromogen</td>
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<td>10 minutes</td>
<td>5-10 minutes</td>
</tr>
<tr>
<td>Counterstain</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
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</tbody>
</table>

**Limitations**

Alpha-fetoprotein (AFP) antibody, when used as directed, detects antigens that survive routine formalin fixation, tissue processing and sectioning. Users who deviate from recommended test procedures are responsible for interpretation and validation of patient results.

**References**