**Product datasheet**

**Anti-alpha 1 Fetoprotein antibody [AFP-01] ab3980**

**Overview**

- **Product name**: Anti-alpha 1 Fetoprotein antibody [AFP-01]
- **Description**: Mouse monoclonal [AFP-01] to alpha 1 Fetoprotein
- **Host species**: Mouse
- **Specificity**: The antibody reacts with human alpha-Fetoprotein (AFP), an oncofetal antigen of 70 kDa. AFP is a major fetal plasma protein, but is not present in healthy adult tissues. Elevated AFP concentrations in adult plasma may be an early marker of hepatocellular carcinoma or teratoblastoma, while high concentrations in amniotic fluid may indicate severe congenital defects of a fetus.

**Tested applications**

- **Suitable for**: Sandwich ELISA, ICC/IF, ELISA, IP, WB

**Species reactivity**

- **Reacts with**: Human

**Immunogen**

Full length native protein (purified) corresponding to Human alpha 1 Fetoprotein.

**Positive control**

Hep G2 human hepatocellular carcinoma cell line Sample preparation: Resuspend approx. 50 mil. cells in 1 ml cold Lysis buffer (1% laurylmaltoside in 20 mM Tris/Cl, 100 mM NaCl pH 8.2, 50 mM NaF including Protease inhibitor Cocktail). Incubate 60 min on ice. Centrifuge to remove cell debris. Mix lysate with non-reducing/reducing Laemmli SDS-PAGE sample buffer.

**Properties**

- **Form**: Liquid
- **Storage instructions**: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
- **Storage buffer**: pH: 7.40
  - Preservative: 0.097% Sodium azide
  - Constituent: PBS
- **Purity**: Proprietary Purification
- **Purification notes**: Purified by precipitation and chromatography
- **Clonality**: Monoclonal
- **Clone number**: AFP-01
- **Myeloma**: unknown
- **Isotype**: IgG1
- **Light chain type**: unknown
Function
Binds copper, nickel, and fatty acids as well as, and bilirubin less well than, serum albumin. Only a small percentage (less than 2%) of the human AFP shows estrogen-binding properties.

Tissue specificity
Plasma. Synthesized by the fetal liver and yolk sac.

Sequence similarities
Belongs to the ALB/AFP/VDB family. Contains 3 albumin domains.

Developmental stage
Occurs in the plasma of fetuses more than 4 weeks old, reaches the highest levels during the 12th-16th week of gestation, and drops to trace amounts after birth. The serum level in adults is usually less than 40 ng/ml. AFP occurs also at high levels in the plasma and ascitic fluid of adults with hepatoma.

Post-translational modifications
Independent studies suggest heterogeneity of the N-terminal sequence of the mature protein and of the cleavage site of the signal sequence. Sulfated.

Cellular localization
Secreted.

Applications
Our Abpromise guarantee covers the use of ab3980 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Sandwich ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 5 µg/ml.</td>
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<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration. Use at an assay dependant dilution. Interaction of the antibody with AFP is dependent on the presence of calcium ions (strongly inhibited by chelating agents). Such characteristics of the antibody can be exploited for immunoaffinity purification of APF under mild elution conditions.</td>
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<tr>
<td>WB</td>
<td></td>
<td>Use at an assay dependent concentration. Detects a band of approximately 70 kDa.</td>
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Target

Images
Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Fetoprotein antibody [AFP-01] (ab3980)

ICC/IF image of ab3980 stained MCF7 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab3980, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Western blot - Anti-alpha 1 Fetoprotein antibody [AFP-01] (ab3980)

This image is courtesy of an anonymous abreview.

All lanes : Anti-alpha 1 Fetoprotein antibody [AFP-01] (ab3980) at 1/1000 dilution

Lane 1 : Lanes 1 human embryonic stem (ES) cell lysates.
Lane 2 : Lanes 2 human embryonic stem (ES) cell lysates.
Lane 3 : Lanes 3 definitive endoderm lysates.
Lane 4 : Lanes 4 definitive endoderm lysates.
Lane 5 : Lanes 5 hepatoblast lysates.
Lane 6 : Lanes 6 hepatoblast lysates.
Lane 7 : Lanes 7 hepatocyte lysates.
Lane 8 : Lanes 8 hepatocyte lysates.

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-mouse HRP (Dako) at 1/1000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Observed band size: 62-65 kDa
why is the actual band size different from the predicted?
Exposure time: 15 minutes

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