



FabGennix Inc.
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Antibodies to Alpha-fetoprotein (AFP)

Alpha-fetoprotein (AFP) antibodies. Catalog # AFP-101AP, P-AFP and PC-AFP.

Accession # and Alternate Nomenclature: Alfa fetoprotein, AFP,

Alpha-fetoprotein (AFP) is a major plasma protein that is synthesized primarily in the fetal liver and gastrointestinal tract and embryonic yolk sac (1). AFP is thought to be the fetal counterpart of serum albumin, and the AFP and albumin genes are present in tandem in the same transcriptional orientation on chromosome 4. AFP production is essentially stopped soon after birth; however, it starts up again under the stimulus of some diseases in the liver. It may be produced by the liver in viral hepatitis and cirrhosis of the liver (2). AFP is also made by primary liver tumors (hepatomas) and by germ cell tumors (teratocarcinoma and embryonal cell carcinomas) hence AFP expression in adults is often associated with hepatoma or teratoma (2-4). A person's serum AFP level can therefore be used to help detect these conditions and monitor their treatment. Hereditary persistence of AFP may also be found in individuals with no obvious pathology. The level of AFP in amniotic fluid is used to measure renal loss of AFP protein to screen for spina bifida and anencephaly in pregnant mothers (5, 6).

AFP can be found in the amniotic fluid and in the mother's blood. AFP is found in monomeric as well as dimeric and trimeric forms, and binds copper, nickel, fatty acids and bilirubin that serves as the basis for some valuable tests. A problem with the fetus, placenta, a tumor or liver disease in a pregnant woman could result in abnormally high levels of AFP in the serum of that pregnant woman. Abnormally elevated level of AFP in amniotic fluid could be due to open neural tube defect, open abdominal wall defect, congenital nephrosis and other causes. Alpha-fetoprotein (AFP) is approximately 70 kDa (609 Amino Acids) protein. The AFP-selective antibodies were generated against purified human alfafetoprotein (AFP). AFP-antibodies are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking protein for AFP-101AP antibody. Antibodies to AFP (AFP-101AP) will label 69-70kDa AFP protein in Western blot positive control samples for AFP and several other tissues. FabGennix Inc. will also conjugate antibodies with secondary enzymes (alk-Pase or HRP) or fluorescent probes upon request at a nominal cost. For a complete listing of FabGennix Inc., antibodies please visit www.fabgennix.com.

| Catalog # | Host Species | Nature | Cross reactivity | Quantity | Volume |
|------------|--------------|---|------------------|------------|---------|
| AFP-101 AP | Rabbit | Affinity purified AFP antibodies | H, others n.d | 100 ug | 200ul |
| FITC-AFP | Rabbit | FITC-conjugated AFP antibody | H. others n.d | 100ug | 200ul |
| P-AFP | n/a | Antigenic blocking peptide for AFP-101AP | n/a | 250 ug | 100ul |
| PC-AFP | n/a | Western blotting positive control for AFP | n/a | For 5 appl | inquire |

R = rat; M = mouse; H = human; C = chicken; monk = monkey; * not all variants are labeled equally

Immunogen:

Synthetic peptides corresponding to unique epitope on AFP. The peptide sequence was unique to AFP. The AFP peptide was covalently modified post-synthetically covalently modified to achieve desired antigenicity.

Concentration:

AFP-101AP: IgG concentration 0.64-0.72 mg/ml in antibody stabilization buffer.

Applications:

Antibody AFP-101AP is ideal for WB and ELISA applications, other applications have not been tested. These antibodies do not cross react to human lactoferrin, bovine lactoferrin or bovine serum albumin. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures.

Reactivity:

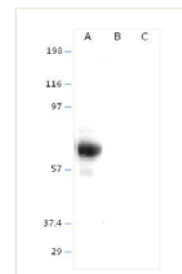
This antibody detects a single band of approximately 70kDa in PC-AFP samples. The antibody does not cross react to human lactoferrin, human serum albumin and other cellular proteins. A minor 57 kDa band may represent a degradation product of the AFP.

Protocols:

Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc., strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

Form/Storage:

The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.



Western blot of AFP-101AP with PC-AFP (A); Human lactoferrin (B); and Human serum albumin (C). Antibody dilution 1:500 in diluOBuffer. AFP is 69 kDa protein on SDS-PAGE.

Notes: Briefly centrifuge to collect liquid, heat or boil PC-AFP tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

New Reagents: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluOBuffer and you are ready for blotting with a new antibody

References:

1. Tomasi TB. Structure and function of alpha-fetoprotein. Annual review of medicine. 1998; 28: 453-65
2. Ball D, Rose E, Alpert E. Alpha-fetoprotein levels in normal adults. Am. J. Med. Sci. 1992; 303 (3): 157-9
3. Tang H, Tang XY, Liu H, Li X. Targeting alpha-fetoprotein represses the proliferation of hepatoma cells via regulation of the cell cycle. Clin Chim Acta. 2008 Aug;394(1-2):81-8
4. Aydin GB, Hayran M, Buyukpamukcu M. Undulant course of AFP: a sign of tumor activation or not? Pediatr Hematol Oncol. 2009 Jan; 26(1):30-5
5. Duffy MJ, Crown J. A personalized approach to cancer treatment: how biomarkers can help. Clin. Chem. 2008 Nov; 54(11): 1770-9.
6. Christiansen M, Hogdall CK, Hogdall EV. Alpha-fetoprotein in human fetal cerebrospinal fluid. Clinica chimica acta; international journal of clinical chemistry. 2000 Jan; 291(1):35-41

* For users who may require large amounts of AFP-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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