

AFP (AFP05): sc-69857

BACKGROUND

α -fetoprotein (AFP) is expressed in fetal liver at varying levels throughout development and is present only in trace amounts in normal adult tissues. AFP can be detected at abnormally high concentrations in hepatocellular carcinomas as well as in the plasma and ascitic fluid of adults with hepatoma. High AFP concentrations have been correlated with tumor cell growth, indicating that AFP can serve as a tumor marker. AFP binds copper, nickel and fatty acids, and in some cases may bind serum albumin or estrogen. It has been demonstrated that the AFP promoter is a target for NF-1 (nuclear factor-1), HNF-1 (hepatocyte nuclear factor-1) and C/EBP transcription factors. While HNF-1 binding to the AFP promoter results in AFP expression, NF-1 binding results in a decrease in AFP promoter activity.

REFERENCES

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2. Stefanova, I., et al. 1988. Monoclonal antibodies against human α -fetoprotein. Exploitation of an unusual calcium-dependent interaction with the antigen for analytical and preparative purposes. *J. Immunol. Methods* 111: 67-73.
3. Iturralde, M., et al. 1991. Effect of α -fetoprotein and albumin on the uptake of polyunsaturated fatty acids by rat hepatoma cells and fetal rat hepatocytes. *Biochim. Biophys. Acta* 1086: 81-88.
4. Bois-Joyeux, B. and Danan, J.L. 1994. Members of the CAAT/enhancer-binding protein, hepatocyte nuclear factor-1 and nuclear factor-1 families can differentially modulate the activities of the rat α -fetoprotein promoter and enhancer. *Biochem. J.* 301: 49-55.
5. Ido, A., et al. 1995. Gene therapy for hepatoma cells using a retrovirus vector carrying herpes simplex virus thymidine kinase gene under the control of human α -fetoprotein gene promoter. *Cancer Res.* 55: 3105-3109.
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7. Wang, X.W. and Xu, B. 1998. Stimulator of tumor-cell growth by α -fetoprotein. *Int. J. Cancer* 75: 596-599.
8. Baker, M.E., et al. 1998. Flavonoids inhibit estrogen binding to rat α -fetoprotein. *Proc. Soc. Exp. Biol. Med.* 217: 317-321.

CHROMOSOMAL LOCATION

Genetic locus: AFP (human) mapping to 4q13.3.

SOURCE

AFP (AFP05) is a mouse monoclonal antibody raised against full-length native AFP of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AFP (AFP05) is recommended for detection of AFP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AFP siRNA (h2): sc-270319, AFP shRNA Plasmid (h2): sc-270319-SH and AFP shRNA (h2) Lentiviral Particles: sc-270319-V.

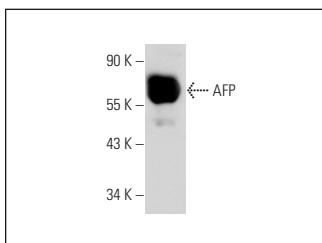
Molecular Weight of AFP: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HUV-EC-C cell lysate: sc-364180.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



AFP (AFP05): sc-69857. Western blot analysis of human recombinant AFP.

STORAGE


Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **AFP (C3): sc-8399** for AFP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.