

AFP (E-7): sc-166450

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

1. Aoyagi, Y., et al. 1978. Copper (II)-binding ability of human α -fetoprotein. *Cancer Res.* 38: 3483-3486.
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.
6. Bois-Joyeux, B., et al. 1995. Several transcription factors participate in the functioning of the α -fetoprotein gene promoter. *Bull. Cancer* 82: 541-550.
7. Wang, X.W. and Xu, B. 1998. Stimulator of tumor-cell growth by α -fetoprotein. *Int. J. Cancer* 75: 596-599.

CHROMOSOMAL LOCATION

Genetic locus: AFP (human) mapping to 4q13.3; Afp (mouse) mapping to 5 E1.

SOURCE

AFP (E-7) is a mouse monoclonal antibody raised against amino acids 171-310 of AFP of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

AFP (E-7) is recommended for detection of AFP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 siRNA (m): sc-29649, AFP shRNA Plasmid (h2): sc-270319-SH, AFP shRNA Plasmid (m): sc-29649-SH, AFP shRNA (h2) Lentiviral Particles: sc-270319-V and AFP shRNA (m) Lentiviral Particles: sc-29649-V.

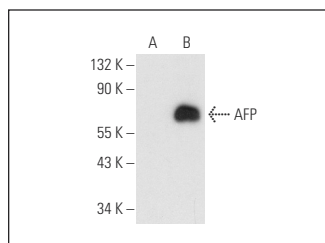
Molecular Weight of AFP: 68 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, Hep G2 cell lysate: sc-2227 or AFP (h): 293T Lysate: sc-114125.

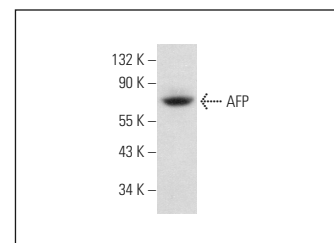
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA




AFP (E-7): sc-166450. Western blot analysis of AFP expression in non-transfected: sc-117752 (A) and human AFP transfected: sc-114125 (B) 293T whole cell lysates.



AFP (E-7): sc-166450. Western blot analysis of AFP expression in c4 whole cell lysate.

RESEARCH USE

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



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