

AFP (MBS-12): sc-80673

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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3. Iturralde, M., Alava, M.A., Gonzalez, B., Anel, A. and Pineiro, A. 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., Nakata, K., Kato, Y., Murata, K., Fujita, M., Ishii, N., Tamaoki, T., Shiku, H. and Nagataki, S. 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., Thomassin, H., Richard, F., Ikononova, R., Denissenko, M. and Dana, J.L. 1995. Several transcription factors participate in the functioning of the α -fetoprotein gene promoter. *Bull. Cancer* 82: 541-550.
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CHROMOSOMAL LOCATION

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

SOURCE

AFP (MBS-12) is a mouse monoclonal antibody raised against native AFP purified from human fetal cord.

STORAGE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AFP (MBS-12) 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 (h): sc-29648, AFP shRNA Plasmid (h): sc-29648-SH and AFP shRNA (h) Lentiviral Particles: sc-29648-V.

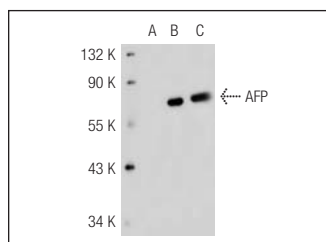
Molecular Weight of AFP: 68 kDa.

Positive Controls: AFP (h): 293T lysate: sc-114125, Hep G2 cell lysate: sc-2227 or AFP (h2): 293T Lysate: sc-170237.

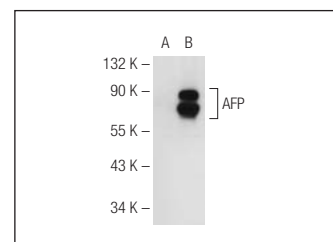
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 (MBS-12): sc-80673. Western blot analysis of AFP expression in non-transfected 293T: sc-117752 (A), human AFP transfected 293T: sc-114125 (B) and Hep G2 (C) whole cell lysates.



AFP (MBS-12): sc-80673. Western blot analysis of AFP expression in non-transfected: sc-117752 (A) and human AFP transfected: sc-170237 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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