SANTA CRUZ BIOTECHNOLOGY, INC.

AFP (h): 293T Lysate: sc-114125

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. Stimulaton 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.

PRODUCT

AFP (h): 293T Lysate represents a lysate of human AFP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

AFP (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive AFP antibodies. Recommended use: 10-20 µl per lane.

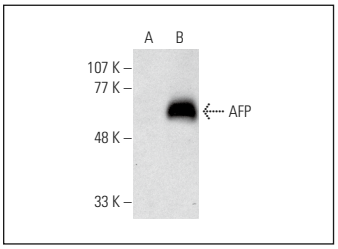
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AFP (C3) HRP: sc-8399 HRP is recommended as a positive control antibody for Western Blot analysis of enhanced human AFP expression in AFP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

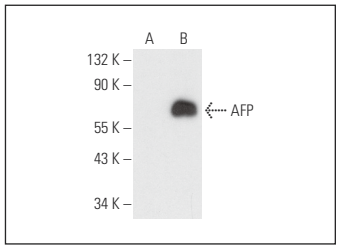
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



AFP (C3) HRP: sc-8399 HRP. Direct 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 non-transfected: sc-117752 (**A**) and human AFP transfected: sc-114125 (**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 for detailed protocols and support products.