

AFP Receptor (2B8): sc-51751

BACKGROUND

α -fetoprotein receptor (AFP Receptor or AFP-R) is a protein expressed on the cell surface in placental villous tissues that mediates the uptake of α -fetoprotein (AFP) by proliferating or differentiating cells. AFP is expressed in varying levels throughout fetal development and is present only in trace amounts in normal adult tissues. It can be detected at abnormally high concentrations in hepatocellular carcinomas as well as in the plasma and ascitic fluid of adults with hepatoma. In addition, AFP Receptor has been found at high expression levels in gastric cancer cells. High AFP and AFP Receptor concentrations have been correlated with tumor cell growth, indicating that these proteins can serve as tumor markers. It has been demonstrated that the AFP promoter is a target for HNF-1 (hepatocyte nuclear factor-1), NF-1 (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., Ikenaka, T. and Ichida, F. 1978. Copper_{II}-binding ability of human α fetoprotein. *Cancer Res.* 38: 3483-3486.
2. Stefanova, I., Horejsi, V., Kristofova, H., Angelisova, P., Zizkovsky, V. and Hilgert, I. 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., 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 Danan, J.L. 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. Stimulation of tumor-cell growth by α -fetoprotein. *Int. J. Cancer* 75: 596-599.
8. Baker, M.E., Medlock, K.L. and Sheehan, D.M. 1998. Flavonoids inhibit estrogen binding to rat α -fetoprotein. *Proc. Soc. Exp. Biol. Med.* 217: 317-321.
9. Tsuboi, S., et al. 2006. High level of expression of α -fetoprotein receptor in gastric cancers. *Tumour Biol.* 27:283-288.

RESEARCH USE

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

SOURCE

AFP Receptor (2B8) is a mouse monoclonal antibody raised against purified AFP Receptor of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AFP Receptor (2B8) is recommended for detection of different determinants of AFP Receptor of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of AFP Receptor: 65 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or Jurkat whole cell lysate: sc-2204.

SELECT PRODUCT CITATIONS

1. Guilleminault, C., Montplaisir, J., Billiard, M. and Dement, W.C. 1975. Proceedings: automatic behavior syndrome in patients with excessive daytime somnolence. *Electroencephalogr. Clin. Neurophysiol.* 39: 432-433.
2. Li, P., Wang, S.S., Liu, H., Li, N., McNutt, M.A., Li, G. and Ding, H.G. 2011. Elevated serum α fetoprotein levels promote pathological progression of hepatocellular carcinoma. *World J. Gastroenterol.* 17: 4563-4571.

STORAGE

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

PROTOCOLS

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