SANTA CRUZ BIOTECHNOLOGY, INC.

AFP (H-140): sc-15375

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

AFP (H-140) is a rabbit polyclonal antibody raised against amino acids 171-310 mapping to an internal region of AFP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AFP (H-140) is recommended for detection of AFP of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HUV-EC-C whole cell lysate: sc-364180.

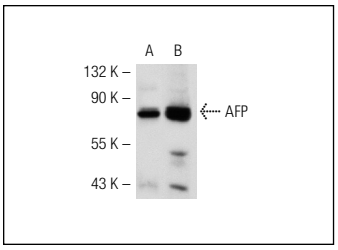
RESEARCH USE

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

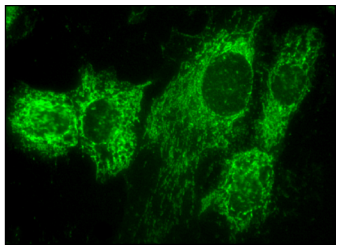
STORAGE

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

DATA



AFP (H-140): sc-15375. Western blot analysis of AFP expression in 293T (**A**) and HeLa (**B**) whole cell lysates.



AFP (H-140): sc-15375. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Shachaf, C.M., et al. 2004. MYC inactivation uncovers pluripotent differentiation and tumour dormancy in hepatocellular cancer. Nature 431: 1112-1117.
2. Maherali, N., et al. 2008. A high-efficiency system for the generation and study of human induced pluripotent stem cells. Cell Stem Cell 3: 340-345.
3. Cortes J.L., et al. 2008. Whole-blastocyst culture followed by laser drilling technology enhances the efficiency of inner cell mass isolation and embryonic stem cell derivation from good- and poor-quality mouse embryos: new insights for derivation of human embryonic stem cell lines. Stem Cells Dev. 17: 255-267.
4. Eminli, S., et al. 2009. Differentiation stage determines potential of hematopoietic cells for reprogramming into induced pluripotent stem cells. Nat. Genet. 41: 968-976.
5. Cortes J.L., et al. 2009. Mesenchymal stem cells facilitate the derivation of human embryonic stem cells from cryopreserved poor-quality embryos. Hum. Reprod. 24: 1844-1851.
6. Haque, A., et al. 2011. The effect of recombinant E-cadherin substratum on the differentiation of endoderm-derived hepatocyte-like cells from embryonic stem cells. Biomaterials 32: 2032-2042.
7. Shan, L., et al. 2012. Proteomic analysis of amniotic fluid of pregnant rats with spina bifida aperta. J. Proteomics 75: 1181-1189.