

AFP (AFP-11): sc-51506

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(III)-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.

SOURCE

AFP (AFP-11) is a mouse monoclonal antibody raised against purified AFP of human origin.

PRODUCT

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

APPLICATIONS

AFP (AFP-11) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AFP siRNA (h2): sc-270319, AFP shRNA Plasmid (h2): sc-270319-SH and AFP shRNA (h2) Lentiviral Particles: sc-270319-V.

Molecular Weight of AFP: 68 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or HUV-EC-C cell lysate: sc-364180.

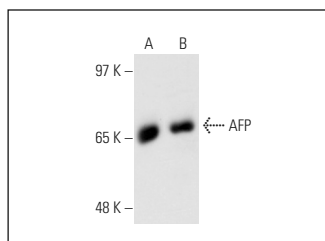
STORAGE

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

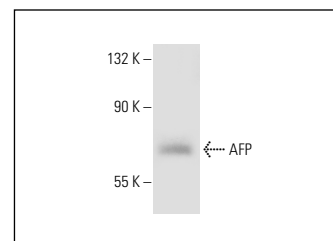
RESEARCH USE

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

DATA



AFP (AFP-11): sc-51506. Western blot analysis of human recombinant AFP under non-reducing (A) and reducing (B) conditions.



AFP (AFP-11): sc-51506. Western blot analysis of AFP expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Evseenko, D., et al. 2009. Identification of the critical extracellular matrix proteins that promote human embryonic stem cell assembly. *Stem Cells Dev.* 18: 919-928.
2. Liu, Y., et al. 2012. Tip110 maintains expression of pluripotent factors in and pluripotency of human embryonic stem cells. *Stem Cells Dev.* 21: 829-833.
3. Hammam, O.A., et al. 2016. Wharton's jelly-derived mesenchymal stem cells combined with praziquantel as a potential therapy for *Schistosoma mansoni*-induced liver fibrosis. *Sci. Rep.* 6: 21005.
4. Chang, C.W., et al. 2018. Generation of FHL2 homozygous knockout lines from human embryonic stem cells by CRISPR/Cas9-mediated ablation. *Stem Cell Res.* 27: 21-24.
5. Yu, Y.B., et al. 2018. Differentiation of umbilical cord mesenchymal stem cells into hepatocytes in comparison with bone marrow mesenchymal stem cells. *Mol. Med. Rep.* 18: 2009-2016.
6. Trionfini, P., et al. 2020. Generation of two isogenic knockout PKD2 iPS cell lines, IRFMNi003-A-1 and IRFMNi003-A-2, using CRISPR/Cas9 technology. *Stem Cell Res.* 42: 101667.
7. Romano, E., et al. 2020. Generation of PKD1 mono-allelic and bi-allelic knockout iPS cell lines using CRISPR-Cas9 system. *Stem Cell Res.* 47: 101881.
8. Méjécase, C., et al. 2020. Generation of two human control iPS cell lines (UCLi016-A and UCLi017-A) from healthy donors with no known ocular conditions. *Stem Cell Res.* 49: 102113.
9. Harding, P., et al. 2021. Generation of human iPSC line (UCLi013-A) from a patient with microphthalmia and aniridia, carrying a heterozygous missense mutation c.372C>A p.(Asn124Lys) in PAX6. *Stem Cell Res.* 51: 102184.

CONJUGATES

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