

AFP (39): sc-130302

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.

CHROMOSOMAL LOCATION

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

SOURCE

AFP (39) is a mouse monoclonal antibody raised against recombinant AFP of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AFP (39) is available conjugated to agarose (sc-130302 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130302 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130302 PE), fluorescein (sc-130302 FITC), Alexa Fluor® 488 (sc-130302 AF488), Alexa Fluor® 546 (sc-130302 AF546), Alexa Fluor® 594 (sc-130302 AF594) or Alexa Fluor® 647 (sc-130302 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130302 AF680) or Alexa Fluor® 790 (sc-130302 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

AFP (39) is recommended for detection of AFP of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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.

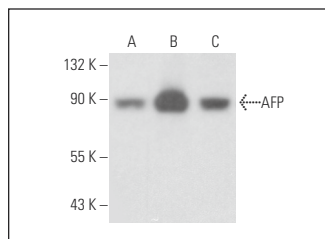
Molecular Weight of AFP: 68 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

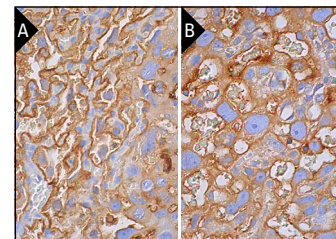
STORAGE

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

DATA



AFP (39): sc-130302. Western blot analysis of AFP expression in HeLa (A), A549 (B) and Jurkat (C) whole cell lysates.



AFP (39): sc-130302. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells and cytoplasmic staining of decidual cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat placenta tissue showing cytoplasmic staining of trophoblastic cells and decidual cells (B).

SELECT PRODUCT CITATIONS

- Zhang, A., et al. 2010. EIF2 α and caspase-12 activation are involved in oxygen-glucose-serum deprivation/restoration-induced apoptosis of spinal cord astrocytes. *Neurosci. Lett.* 478: 32-36.
- Li, C., et al. 2013. Effects of maternal nutrient restriction, intrauterine growth restriction, and glucocorticoid exposure on phosphoenolpyruvate carboxykinase-1 expression in fetal baboon hepatocytes *in vitro*. *J. Med. Primatol.* 42: 211-219.
- Thomas, S.M., et al. 2015. Reprogramming LCLs to iPSCs results in recovery of donor-specific gene expression signature. *PLoS Genet.* 11: e1005216.
- Bai, G.Y., et al. 2016. Embryos aggregation improves development and imprinting gene expression in mouse parthenogenesis. *Dev. Growth Differ.* 58: 270-279.
- Liu, L., et al. 2018. Hepatic ZIP8 deficiency is associated with disrupted selenium homeostasis, liver pathology and tumor formation. *Am. J. Physiol. Gastrointest. Liver Physiol.* 315: G569-G579.
- Fernández, M., et al. 2020. Thyroid hormone signaling in embryonic stem cells: crosstalk with the retinoic acid pathway. *Int. J. Mol. Sci.* 21: 8945.
- Lin, H., et al. 2021. Hyperpolyploidization of hepatocyte initiates preneoplastic lesion formation in the liver. *Nat. Commun.* 12: 645.
- Zhang, Y.F., et al. 2023. Long-term treatment with the mPXR agonist PCN promotes hepatomegaly and lipid accumulation without hepatocyte proliferation in mice. *Acta Pharmacol. Sin.* 44: 169-177.

RESEARCH USE

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