SANTA CRUZ BIOTECHNOLOGY, INC.

HNF-1α (N-19): sc-6548

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HNF-1 (α and β), HNF-3 (α, β and γ), HNF-4 (α and γ) and HNF-6 compose, in part, a homoeprotein family designated the hepatocyte nuclear factor family. The various HNF-1 isoforms regulate transcription of genes in liver and in other tissues such as kidney, small intestine and thymus. HNF-3α, HNF-3β and HNF-3γ regulate the transcription of numerous hepatocyte genes in adult liver. HNF-3α and HNF-3β have also been shown to be involved in gastrulation events such as body axis formation. HNF-4α and HNF-4γ have been shown to be important for early embryo development. HNF-4α is expressed in liver, kidney, pancreas, small intestine, testis and colon; and HNF-4γ is expressed in each of these tissues except liver. HNF-6 has been shown to bind to the promoter of HNF-3β, which indicates a potential role of HNF-6 in gut endoderm epithelial cell differentiation. Evidence suggests that HNF-6 may also be a transriptional activator for at least 22 other hepatocyte-enriched genes, including cytochrome P450 2C13 and α-1 antitrypsin.

CHROMOSOMAL LOCATION

Genetic locus: HNF1A (human) mapping to 12q24.31; Hnf1a (mouse) mapping to 5 F.

SOURCE

HNF-1α (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HNF-1α 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-6548 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-6548 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HNF-1α (N-19) is recommended for detection of HNF-1α of mouse, rat and human 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), 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).

HNF-1α (N-19) is also recommended for detection of HNF-1α in additional species, including bovine and porcine.

Suitable for use as control antibody for HNF-1α siRNA (h): sc-35567, HNF-1α siRNA (m): sc-35568, HNF-1α shRNA Plasmid (h): sc-35567-SH, HNF-1α shRNA Plasmid (m): sc-35568-SH, HNF-1α shRNA (h) Lentiviral Particles: sc-35567-V and HNF-1α shRNA (m) Lentiviral Particles: sc-35568-V.

HNF-1α (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

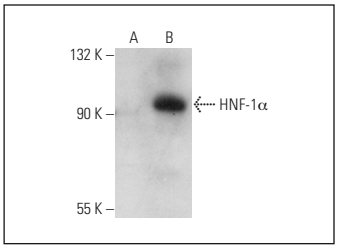
Molecular Weight of HNF-1α: 79 kDa.

Positive Controls: HNF-1α (h): 293T Lysate: sc- 369725.

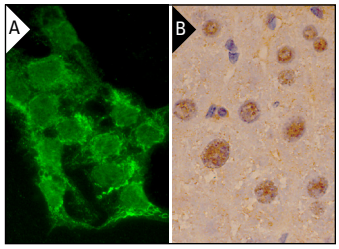
STORAGE

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

DATA



HNF-1α (N-19): sc-6548. Western blot analysis of HNF-1α expression in non-transfected: sc-117752 (**A**) and human HNF-1α transfected: sc-369725 (**B**) 293T whole cell lysates.



HNF-1α (N-19): sc-6548. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Soutoglou, E., et al. 2000. Transciptional activation by hepatocyte nuclear factor-1 requires synergism between multiple coactivator proteins. J. Biol. Chem. 275: 12515-12520.
2. Supriatna, Y., et al. 2007. Expression of liver-enriched nuclear factors and their isoforms in α-fetoprotein-producing gastric carcinoma cells. Exp. Mol. Pathol. 82: 316-321.
3. Ladeiro, Y., et al. 2008. MicroRNA profiling in hepatocellular tumors is associated with clinical features and oncogene/tumor suppressor gene mutations. Hepatology 47: 1955-1963.
4. Kanazawa, T., et al. 2009. Expression of hepatocyte nuclear factor 4α in developing mice. Anat. Histol. Embryol. 38: 34-41.
5. Lehner, F., et al. 2010. Mapping of liver-enriched transcription factors in the human intestine. World J. Gastroenterol. 16: 3919-3927.
6. Jeannot, E., et al. 2010. Spectrum of HNF1A somatic mutations in hepatocellular adenoma differs from that in patients with MODY3 and suggests genotoxic damage. Diabetes 59: 1836-1844.
7. Hunter, C.S., et al. 2011. Hnf1α (MODY3) regulates β-cell-enriched MafA transcription factor expression. Mol. Endocrinol. 25: 339-347.

RESEARCH USE

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