SANTA CRUZ BIOTECHNOLOGY, INC.

HNF-1β (94.8): sc-130407

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 the liver as well as 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.

REFERENCES

1. Bach, I., et al. 1993. More potent transcriptional activators or a transdominant inhibitor of the HNF-1 homeoprotein family are generated by alternative RNA processing. EMBO J. 12: 4229-4242.
2. Kaestner, K.H., et al. 1994. The HNF-3 gene family of transcription factors in mice: gene structure, cDNA sequence, and mRNA distribution. Genomics 20: 377-385.
3. Drewes, T., et al. 1996. Human hepatocyte nuclear factor 4 isoforms are encoded by distinct and differentially expressed genes. Mol. Cell. Biol. 16: 925-931.
4. Samadani, U., et al. 1996. The transcriptional activator hepatocyte nuclear factor 6 regulates liver gene expression. Mol. Cell. Biol. 16: 6273-6284.
5. Lebrun, G., et al. 2005. Cystic kidney disease, chromophobe renal cell carcinoma and TCF-2 (HNF-1β) mutations. Nat. Clin. Pract. Nephrol. 1: 115-119.
6. Edghill, E.L., et al. 2006. Hepatocyte nuclear factor-1β mutations cause neonatal diabetes and intrauterine growth retardation: support for a critical role of HNF-1β in human pancreatic development. Diabet. Med. 23: 1301-1306.

CHROMOSOMAL LOCATION

Genetic locus: HNF1B (human) mapping to 17q12.

SOURCE

HNF-1β (94.8) is a mouse monoclonal antibody raised against recombinant HNF-1β of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

HNF-1β (94.8) is recommended for detection of HNF-1β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HNF-1β siRNA (h): sc-37928, HNF-1β shRNA Plasmid (h): sc-37928-SH and HNF-1β shRNA (h) Lentiviral Particles: sc-37928-V.

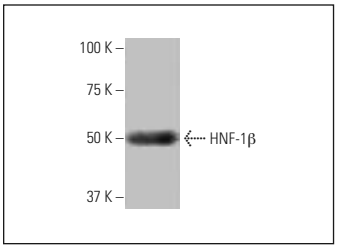
Molecular Weight of HNF-1β: 61 kDa.

Positive Controls: Hep G2 nuclear extract: sc-364819 or human skin extract: sc-363777.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



HNF-1β (94.8): sc-130407. Western blot analysis of HNF-1β expression in human skin tissue extract.

SELECT PRODUCT CITATIONS

1. Lee, K., et al. 2019. FOXA2 is required for enhancer priming during pancreatic differentiation. Cell Rep. 28: 382-393.
2. Sun, Y., et al. 2021. LINC02381 contributes to cell proliferation and hinders cell apoptosis in glioma by transcriptionally enhancing CBX5. Brain Res. Bull. 176: 121-129.
3. Geusz, R.J., et al. 2021. Sequence logic at enhancers governs a dual mechanism of endodermal organ fate induction by FOXA pioneer factors. Nat. Commun. 12: 6636.
4. Kitano, H., et al. 2022. HepG2-based designer cells with heat-inducible enhanced liver functions. Cells 11: 1194.
5. Nassar, A.H., et al. 2023. Epigenomic charting and functional annotation of risk loci in renal cell carcinoma. Nat. Commun. 14: 346.

RESEARCH USE

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