

# HNF-1 $\alpha$ (B-3): sc-393668

## BACKGROUND

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

## REFERENCES

- 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.
- 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.
- 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

HNF-1 $\alpha$  (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 618-631 at the C-terminus of HNF-1 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain 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-393668 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-393668 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4 $^{\circ}$  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.

## APPLICATIONS

HNF-1 $\alpha$  (B-3) is recommended for detection of HNF-1 $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

HNF-1 $\alpha$  (B-3) is also recommended for detection of HNF-1 $\alpha$  in additional species, including canine and porcine.

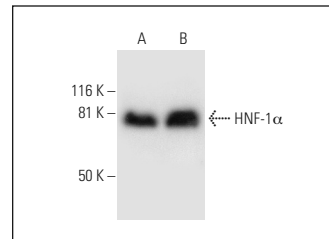
Suitable for use as control antibody for HNF-1 $\alpha$  siRNA (h): sc-35567, HNF-1 $\alpha$  siRNA (m): sc-35568, HNF-1 $\alpha$  shRNA Plasmid (h): sc-35567-SH, HNF-1 $\alpha$  shRNA Plasmid (m): sc-35568-SH, HNF-1 $\alpha$  shRNA (h) Lentiviral Particles: sc-35567-V and HNF-1 $\alpha$  shRNA (m) Lentiviral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

HNF-1 $\alpha$  (B-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

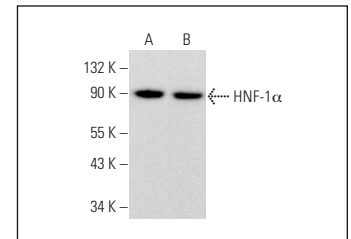
Molecular Weight of HNF-1 $\alpha$ : 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or c4 whole cell lysate: sc-364186.

## DATA



HNF-1 $\alpha$  (B-3): sc-393668. Western blot analysis of HNF-1 $\alpha$  expression in Hep G2 (A) and Caco-2 (B) whole cell lysates.



HNF-1 $\alpha$  (B-3): sc-393668. Western blot analysis of HNF-1 $\alpha$  expression in Hep G2 (A) and c4 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Zhang, G. and Li, Q. 2019. Inflammation induces lipid deposition in kidneys by downregulating renal PCSK9 in mice with adriamycin-induced nephropathy. *Med. Sci. Monit.* 25: 5327-5335.
- Park, Y.K., et al. 2020. Antiviral activity of interferon-stimulated gene 20, as a putative repressor binding to hepatitis B virus enhancer II and core promoter. *J. Gastroenterol. Hepatol.* 35: 1426-1436.
- Lee, H.W., et al. 2021. Hepatocyte growth factor-dependent antiviral activity of activated cdc42-associated kinase 1 against hepatitis B virus. *Front. Microbiol.* 12: 800935.



See **HNF-1 $\alpha$  (F-7): sc-393925** for HNF-1 $\alpha$  antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.