

# HNF-4 $\alpha$ (H-1): sc-374229

## 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

1. Bach, I., et al. 1993. More potent transcriptional activators or a trans-dominant inhibitor of the HNF1 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.

## CHROMOSOMAL LOCATION

Genetic locus: HNF4A (human) mapping to 20q13.12; Hnf4a (mouse) mapping to 2 H3.

## SOURCE

HNF-4 $\alpha$  (H-1) is a mouse monoclonal antibody raised against amino acids 295-465 of HNF-4 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\kappa$  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-374229 X, 200  $\mu$ g/0.1 ml.

HNF-4 $\alpha$  (H-1) is available conjugated to agarose (sc-374229 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374229 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374229 PE), fluorescein (sc-374229 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374229 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374229 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374229 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374229 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374229 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374229 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

HNF-4 $\alpha$  (H-1) is recommended for detection of HNF-4 $\alpha$  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), 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 HNF-4 $\alpha$  siRNA (h): sc-35573, HNF-4 $\alpha$  siRNA (m): sc-35574, HNF-4 $\alpha$  shRNA Plasmid (h): sc-35573-SH, HNF-4 $\alpha$  shRNA Plasmid (m): sc-35574-SH, HNF-4 $\alpha$  shRNA (h) Lentiviral Particles: sc-35573-V and HNF-4 $\alpha$  shRNA (m) Lentiviral Particles: sc-35574-V.

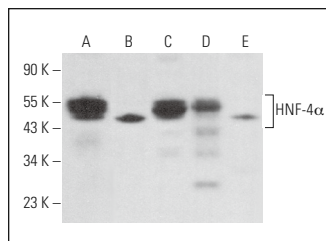
HNF-4 $\alpha$  (H-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of full-length HNF-4 $\alpha$ : 54 kDa.

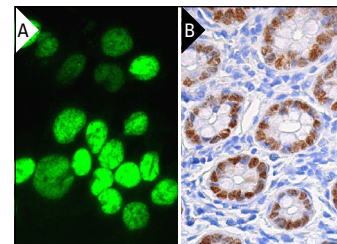
Molecular Weight of N-terminal truncated HNF-4 $\alpha$ : 40 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or F9 cell lysate: sc-2245.

## DATA



HNF-4 $\alpha$  (H-1): sc-374229. Western blot analysis of HNF-4 $\alpha$  expression in Hep G2 (A), ACHN (B), Caco-2 (C), WiDr (D) and F9 (E) whole cell lysates.



HNF-4 $\alpha$  (H-1): sc-374229. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Aschenbrenner, A.C., et al. 2017. A cross-species approach to identify transcriptional regulators exemplified for Dnajc22 and Hnf4a. *Sci. Rep.* 7: 4056.
2. Zhang, K., et al. 2018. *In vitro* expansion of primary human hepatocytes with efficient liver repopulation capacity. *Cell Stem Cell* 23: 23: 806-819.e4.
3. Minami, T., et al. 2019. Novel hybrid three-dimensional artificial liver using human induced pluripotent stem cells and a rat decellularized liver scaffold. *Regen. Ther.* 10: 127-133.
4. 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.

## RESEARCH USE

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