

# HNF-1 $\alpha$ (F-7): sc-393925

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

## SOURCE

HNF-1 $\alpha$  (F-7) is a mouse monoclonal antibody raised against amino acids 80-284 of HNF-1 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</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-393925 X, 200  $\mu$ g/0.1 ml.

HNF-1 $\alpha$  (F-7) is available conjugated to agarose (sc-393925 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393925 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393925 PE), fluorescein (sc-393925 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393925 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393925 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393925 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393925 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393925 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393925 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

HNF-1 $\alpha$  (F-7) 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 $\alpha$  (F-7) is also recommended for detection of HNF-1 $\alpha$  in additional species, including canine and porcine.

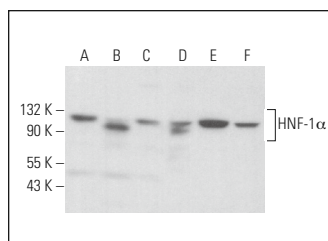
Suitable for use as control antibody for HNF-1 $\alpha$  siRNA (h): sc-35567, HNF-1 $\alpha$  siRNA (m): sc-35568, HNF-1 $\alpha$  shRNA Plasmid (h): sc-35567-SH, HNF-1 $\alpha$  shRNA Plasmid (m): sc-35568-SH, HNF-1 $\alpha$  shRNA (h) Lentiviral Particles: sc-35567-V and HNF-1 $\alpha$  shRNA (m) Lentiviral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

HNF-1 $\alpha$  (F-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

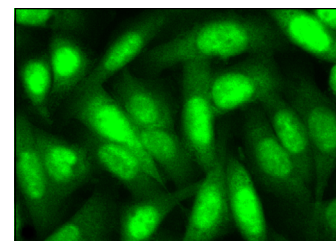
Molecular Weight of HNF-1 $\alpha$ : 79 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

## DATA



HNF-1 $\alpha$  (F-7): sc-393925. Western blot analysis of HNF-1 $\alpha$  expression in Jurkat (A), Hep G2 (B), HUV-EC-C (C), c4 (D), WEHI-231 (E) and PC-12 (F) whole cell lysates.



HNF-1 $\alpha$  (F-7) Alexa Fluor<sup>®</sup> 488: sc-393925 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

1. Taniguchi, H., et al. 2018. Loss-of-function mutations in Zn-finger DNA-binding domain of HNF4A cause aberrant transcriptional regulation in liver cancer. *Oncotarget* 9: 26144-26156.
2. Yang, Y., et al. 2022. HPS protects the liver against steatosis, cell death, inflammation, and fibrosis in mice with steatohepatitis. *FEBS J.* 289: 5279-5304.
3. Sucajjys-Szulc, E., et al. 2023. Hepatocyte nuclear factor-1 $\alpha$  increases fibrinogen gene expression in liver and plasma fibrinogen concentration in rats with experimental chronic renal failure. *Int. J. Mol. Sci.* 24: 5733.
4. Li, G., et al. 2024. HDAC inhibitors support long-term expansion of porcine hepatocytes *in vitro*. *Biomed. Pharmacother.* 177: 116973.

## RESEARCH USE

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