

# HNF-3 $\beta$ (H-8): sc-271104

## 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; 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.
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.

## CHROMOSOMAL LOCATION

Genetic locus: FOXA2 (human) mapping to 20p11.21; Foxa2 (mouse) mapping to 2 G3.

## SOURCE

HNF-3 $\beta$  (H-8) is a mouse monoclonal antibody raised against amino acids 261-370 mapping within an internal region of HNF-3 $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</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-271104 X, 200  $\mu$ g/0.1 ml.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

HNF-3 $\beta$  (H-8) is recommended for detection of HNF-3 $\beta$  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).

Suitable for use as control antibody for HNF-3 $\beta$  siRNA (h): sc-35569, HNF-3 $\beta$  siRNA (m): sc-35570, HNF-3 $\beta$  shRNA Plasmid (h): sc-35569-SH, HNF-3 $\beta$  shRNA Plasmid (m): sc-35570-SH, HNF-3 $\beta$  shRNA (h) Lentiviral Particles: sc-35569-V and HNF-3 $\beta$  shRNA (m) Lentiviral Particles: sc-35570-V.

HNF-3 $\beta$  (H-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

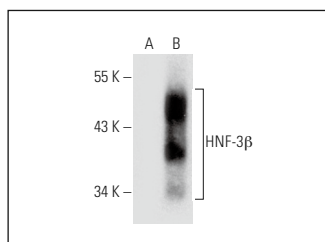
Molecular Weight of HNF-3 $\beta$ : 54 kDa.

Positive Controls: HNF-3 $\beta$  (h): 293T Lysate: sc-176240 or Hep G2 cell lysate: sc-2227.

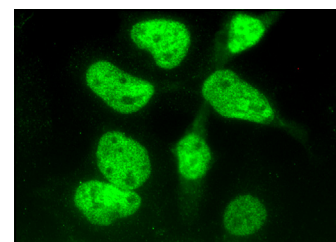
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HNF-3 $\beta$  (H-8): sc-271104. Western blot analysis of HNF-3 $\beta$  expression in non-transfected: sc-117752 (A) and human HNF-3 $\beta$  transfected: sc-176240 (B) 293T whole cell lysates.



HNF-3 $\beta$  (H-8): sc-271104. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Guye, P., et al. 2016. Genetically engineering self-organization of human pluripotent stem cells into a liver bud-like tissue using GATA6. *Nat. Commun.* 7: 10243.

## RESEARCH USE

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