

# HNF-3 $\beta$ (RY-7): sc-101060

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

HNF-3 $\beta$  (RY-7) is a mouse monoclonal antibody raised against recombinant HNF-3 $\beta$  of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HNF-3 $\beta$  (RY-7) is recommended for detection of HNF-3 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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-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.

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

Positive Controls: Hep G2 nuclear extract: sc-364819, Hep G2 cell lysate: sc-2227 or A549 nuclear extract.

## RESEARCH USE

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

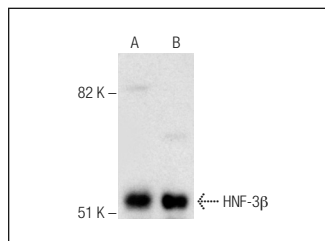
## PROTOCOLS

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

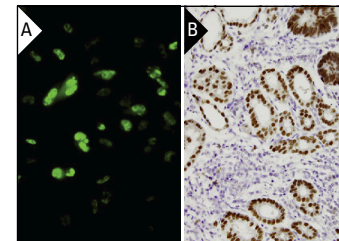
## STORAGE

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

## DATA



HNF-3 $\beta$  (RY-7): sc-101060. Western blot analysis of HNF-3 $\beta$  expression in Hep G2 (A) and A549 (B) nuclear extracts.



HNF-3 $\beta$  (RY-7): sc-101060. Immunofluorescence staining of paraformaldehyde-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing nuclear localization (B).

## SELECT PRODUCT CITATIONS

- Rajala, K., et al. 2010. A defined and xeno-free culture method enabling the establishment of clinical-grade human embryonic, induced pluripotent and adipose stem cells. *PLoS ONE* 5: e10246.
- Hao, Y., et al. 2012. *Pseudomonas aeruginosa* pyocyanin causes airway goblet cell hyperplasia and metaplasia and mucus hypersecretion by inactivating the transcriptional factor FoxA2. *Cell. Microbiol.* 14: 401-415.
- Hao, Y., et al. 2013. Pyocyanin-induced mucin production is associated with redox modification of FOXA2. *Respir. Res.* 14: 82.
- Hao, Y., et al. 2014. *Mycoplasma pneumoniae* modulates STAT3-STAT6/EGFR-FOXA2 signaling to induce overexpression of airway mucins. *Infect. Immun.* 82: 5246-5255.
- Liao, H.K., et al. 2017. *In vivo* target gene activation via CRISPR/Cas9-mediated *trans*-epigenetic modulation. *Cell* 171: 1495-1507.e15.
- Adil, M.M. and Schaffer, D.V. 2018. hPSC-derived midbrain dopaminergic neurons generated in a scalable 3-D biomaterial. *Curr. Protoc. Stem Cell Biol.* 44: 2D.21.1-2D.21.17.
- Ziller, M.J., et al. 2018. Dissecting the functional consequences of *de novo* DNA methylation dynamics in human motor neuron differentiation and physiology. *Cell Stem Cell* 22: 559-574.e9.
- Kim, D.H., et al. 2018. Intracellular interleukin-32 $\gamma$  mediates antiviral activity of cytokines against hepatitis B virus. *Nat. Commun.* 9: 3284.
- Stathakos, P., et al. 2019. Imaging autophagy in hiPSC-derived midbrain dopaminergic neuronal cultures for Parkinson's disease research. *Methods Mol. Biol.* 1880: 257-280.

## CONJUGATES

See **HNF-3 $\beta$  (H-4): sc-374376** for HNF-3 $\beta$  antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.