SANTA CRUZ BIOTECHNOLOGY, INC.

HNF-3β (RY-7): sc-101060

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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

CHROMOSOMAL LOCATION

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

SOURCE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HNF-3β (RY-7) is recommended for detection of HNF-3β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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-3β siRNA (h): sc-35569, HNF-3β siRNA (m): sc-35570, HNF-3β shRNA Plasmid (h): sc-35569-SH, HNF-3β shRNA Plasmid (m): sc-35570-SH, HNF-3β shRNA (h) Lentiviral Particles: sc-35569-V and HNF-3β shRNA (m) Lentiviral Particles: sc-35570-V.

Molecular Weight of HNF-3β: 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.

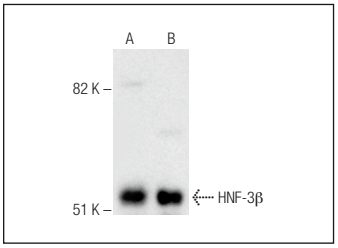
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

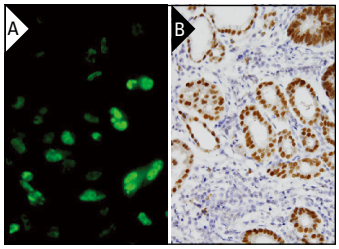
STORAGE

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

DATA



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



HNF-3β (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

1. 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.
2. 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.
3. Hao, Y., et al. 2013. Pyocyanin-induced mucin production is associated with redox modification of FOXA2. Respir. Res. 14: 82.
4. Hao, Y., et al. 2014. *Mycoplasma pneumoniae* modulates STAT3-STAT6/EGFR-FOXA2 signaling to induce overexpression of airway mucins. Infect. Immun. 82: 5246-5255.
5. Liao, H.K., et al. 2017. *In vivo* target gene activation via CRISPR/Cas9-mediated *trans*-epigenetic modulation. Cell 171: 1495-1507.e15.
6. 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.
7. 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.
8. Kim, D.H., et al. 2018. Intracellular interleukin-32γ mediates antiviral activity of cytokines against hepatitis B virus. Nat. Commun. 9: 3284.
9. 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-3β (H-4): sc-374376** for HNF-3β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.