SANTA CRUZ BIOTECHNOLOGY, INC.

HNF-3α/β (E-4): sc-377033

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.

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: FOXA1 (human) mapping to 14q21.1, FOXA2 (human) mapping to 20p11.21; Foxa1 (mouse) mapping to 12 C1, Foxa2 (mouse) mapping to 2 G3.

SOURCE

HNF-3α/β (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 445-473 at the C-terminus of HNF-3α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-377033 X, 200 µg/0.1 ml.

HNF-3α/β (E-4) is available conjugated to agarose (sc-377033 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377033 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377033 PE), fluorescein (sc-377033 FITC), Alexa Fluor® 488 (sc-377033 AF488), Alexa Fluor® 546 (sc-377033 AF546), Alexa Fluor® 594 (sc-377033 AF594) or Alexa Fluor® 647 (sc-377033 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377033 AF680) or Alexa Fluor® 790 (sc-377033 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377033 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HNF-3α/β (E-4) is recommended for detection of HNF-3α and HNF-3β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

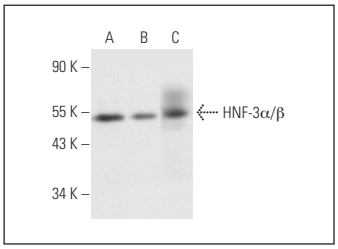
HNF-3α/β (E-4) is also recommended for detection of HNF-3α and HNF-3β in additional species, including bovine and porcine.

HNF-3α/β (E-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

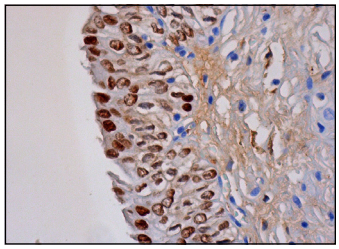
Molecular Weight of HNF-3α/β: 50 kDa.

Positive Controls: DU 145 nuclear extract: sc-24960, A549 cell lysate: sc-2413 or HeLa nuclear extract: sc-2120.

DATA



HNF-3α/β (E-4): sc-377033. Western blot analysis of HNF-3α/β expression in DU 145 (**A**) and HeLa (**B**) nuclear extracts and A549 whole cell lysate (**C**).



HNF-3α/β (E-4): sc-377033. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Lake, A.D., et al. 2016. Transcription factor binding site enrichment analysis predicts drivers of altered gene expression in nonalcoholic steatohepatitis. Biochem. Pharmacol. 122: 62-71.
2. Wang, J., et al. 2017. High glucose augments angiotensinogen in human renal proximal tubular cells through hepatocyte nuclear factor-5. PLoS ONE 12: e0185600.
3. Qadir, M.M.F., et al. 2019. A double fail-safe approach to prevent tumorigenesis and select pancreatic β cells from human embryonic stem cells. Stem Cell Reports 12: 611-623.
4. Chintala, S., et al. 2020. Genes regulated by HPV 16 E6 and high expression of NFX1-123 in cervical cancers. Onco Targets Ther. 13: 6143-6156.

STORAGE

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

RESEARCH USE

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