

HNF-3 α/β (E-4): sc-377033

BACKGROUND

HNF-1 (α and β), HNF-3 (α , β and γ), HNF-4 (α and γ), 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 α , HNF-3 β and HNF-3 γ regulate the transcription of numerous hepatocyte genes in adult liver. HNF-3 α and HNF-3 β have also been shown to be involved in gastrulation events such as body axis formation. HNF-4 α and HNF-4 γ have been shown to be important for early embryo development. HNF-4 α is expressed in liver, kidney, pancreas, small intestine, testis and colon; HNF-4 γ is expressed in each of these tissues except liver. HNF-6 has been shown to bind to the promoter of HNF-3 β , 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 α -1 antitrypsin.

REFERENCES

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

PRODUCT

Each vial contains 200 μ g IgG₁ 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 μ g/0.1 ml.

HNF-3 α/β (E-4) is available conjugated to agarose (sc-377033 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377033 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

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APPLICATIONS

HNF-3 α/β (E-4) is recommended for detection of HNF-3 α and HNF-3 β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

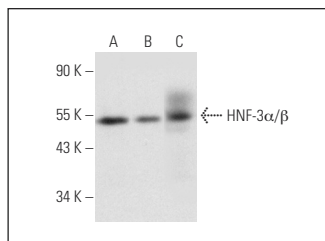
HNF-3 α/β (E-4) is also recommended for detection of HNF-3 α and HNF-3 β in additional species, including bovine and porcine.

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

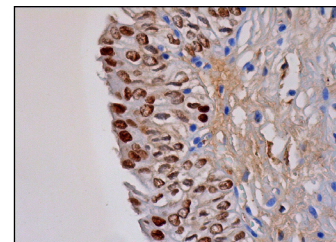
Molecular Weight of HNF-3 α/β : 50 kDa.

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

DATA



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



HNF-3 α/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

- 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.
- Wang, J., et al. 2017. High glucose augments angiotensinogen in human renal proximal tubular cells through hepatocyte nuclear factor-5. *PLoS ONE* 12: e0185600.
- 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.
- Chintala, S., et al. 2020. Genes regulated by HPV 16 E6 and high expression of NF1-123 in cervical cancers. *Oncotargets 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.