SANTA CRUZ BIOTECHNOLOGY, INC.

HNF-1 (H-205): sc-8986

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 liver and 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; and 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: HNF1A (human) mapping to 12q24.31, HNF1B (human) mapping to 17q12; Hnf1a (mouse) mapping to 5 F, Hnf1b (mouse) mapping to 11 C.

SOURCE

HNF-1 (H-205) is a rabbit polyclonal antibody raised against amino acids 80-284 of HNF-1α of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-8986 X, 200 µg/0.1 ml.

APPLICATIONS

HNF-1 (H-205) is recommended for detection of HNF-1α and HNF-1β 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).

HNF-1 (H-205) is also recommended for detection of HNF-1α and HNF-1β in additional species, including canine, bovine, porcine and avian.

HNF-1 (H-205) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HNF-1: 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

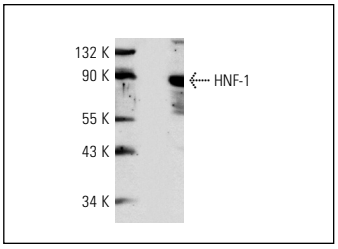
STORAGE

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

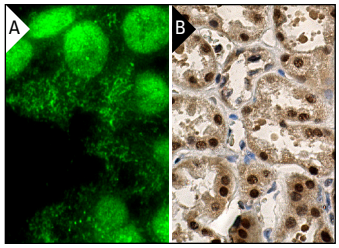
RESEARCH USE

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

DATA



HNF-1 (H-205): sc-8986. Western blot analysis of HNF1 expression in Hep G2 whole cell lysate.



HNF-1 (H-205): sc-8986. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Soutoglou, E., et al. 2000. Transciptional activation by hepatocyte nuclear factor-1 requires synergism between multiple coactivator proteins. J. Biol. Chem. 275: 12515-12520.
2. Yu, H.T., et al. 2009. Specific expression and regulation of hepassocin in the liver and down-regulation of the correlation of HNF1α with decreased levels of hepassocin in human hepatocellular carcinoma. J. Biol. Chem. 284: 13335-133347.
3. Ott, C.J., et al. 2009. A complex intronic enhancer regulates expression of the CFTR gene by direct interaction with the promoter. J. Cell. Mol. Med. 13: 680-692.
4. McCarthy, V.A., et al. 2009. Interaction of intestinal and pancreatic transcription factors in the regulation of CFTR gene expression. Biochim. Biophys. Acta 1789: 709-718.
5. Banerjee, S.K., et al. 2010. SGLT1, a novel cardiac glucose transporter, mediates increased glucose uptake in PRKAG2 cardiomyopathy. J. Mol. Cell. Cardiol. 49: 683-692.
6. Zhang, P., et al. 2010. c-Myc is required for the CHREBP-dependent activation of glucose-responsive genes. Mol. Endocrinol. 24: 1274-1286.
7. Sun, Y., et al. 2011. PCR DNA-array profiling of DNA-binding transcription factor activities in adult mouse tissues. Methods Mol. Biol. 687: 319-331.
8. Hunter, C.S., et al. 2011. Hnf1α (MODY3) regulates β-cell-enriched MafA transcription factor expression. Mol. Endocrinol. 25: 339-347.