SANTA CRUZ BIOTECHNOLOGY, INC.

Hep C cAg (C8-48): sc-81588

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The Power to Question

BACKGROUND

Hep C (hepatitis C) is a small, enveloped, single-stranded, positive sense RNA virus belonging to the family *Flaviviridae*. Transmission of the virus occurs when blood from an infected individual enters the body of an uninfected individual. Hep C primarily replicates within hepatocytes in the liver, and circulating Hep C particles bind to receptors on the surface and enter these cells. Hep C replicates quickly, producing approximately one trillion particles each day in infected individuals. Hep C RNA polymerase has no proofreading function, so the virus has an exceptionally high mutation rate which may help it elude the immune system of the host. Hep C infection results in chronic infections, liver cirrhosis and hepatocellular carcinoma in most people. The core protein of Hep C, known as Hep C cAg, is well conserved among the different viral genotypes and may contribute to the hepatic fibrogenesis by upregulating connective tissue growth factor and TGFβ1.

REFERENCES

1. Watashi, K. and Shimotohno, K. 2003. The roles of hepatitis C virus proteins in modulation of cellular functions: a novel action mechanism of the HCV core protein on gene regulation by nuclear hormone receptors. Cancer Sci. 94: 937-943.
2. Acosta-Rivero, N., et al. 2004. Nucleic acid binding properties and intermediates of HCV core protein multimerization in *Pichia pastoris*. Biochem. Biophys. Res. Commun. 323: 926-931.
3. Sansonno, D., et al. 2004. Detection and quantitation of HCV core protein in single hepatocytes by means of laser capture microdissection and enzyme-linked immunosorbent assay. J. Viral Hepat. 11: 27-32.
4. Alisi, A., et al. 2005. Thr 446 phosphorylation of PKR by HCV core protein deregulates G_2/M phase in HCC cells. J. Cell. Physiol. 205: 25-31.
5. Carabaich, A., et al. 2005. Profiles of HCV core protein and viremia in chronic hepatitis C: possible protective role of core antigen in liver damage. J. Med. Virol. 76: 55-60.
6. Shin, J.Y., et al. 2005. HCV core protein promotes liver fibrogenesis via up-regulation of CTGF with TGFβ1. Exp. Mol. Med. 37: 138-145.
7. Kimball, P., et al. 2005. HCV core protein augments cyclosporine immunosuppression. Transplant. Proc. 37: 652-653.
8. Gu, J., et al. 2005. Morphological alteration and biological properties of hepatocytes not related to tumorigenesis following transfection with HCV core protein. J. Viral Hepat. 12: 20-26.
9. Alvarez-Lajonchere, L., et al. 2006. Hepatitis C virus (HCV) core protein enhances the immunogenicity of a co-delivered DNA vaccine encoding HCV structural antigens in mice. Biotechnol. Appl. Biochem. 44: 9-17.

SOURCE

Hep C cAg (C8-48) is a mouse monoclonal antibody raised against a strain-specific conformational epitope located within the first 82 amino acids of Hep C cAg.

RESEARCH USE

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

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.

APPLICATIONS

Hep C cAg (C8-48) is recommended for detection of the core antigen of Hep C transfected human and primate cell lines by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Hep C cAg: 21/23 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Guo, X., et al. 2019. Hepatitis C virus infection induces endoplasmic reticulum stress and apoptosis in human fetal liver stem cells. J. Pathol. 248: 155-163.

STORAGE

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

PROTOCOLS

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

CONJUGATES

See **Hep C cAg (C7-50): sc-57800** for Hep C cAg antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.