

# Hep C cAg (1868): sc-69937

## BACKGROUND

The 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., et al. 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<sub>2</sub>/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 upregulation 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 (1868) is a mouse monoclonal antibody raised against hepatitis C virus.

## PRODUCT

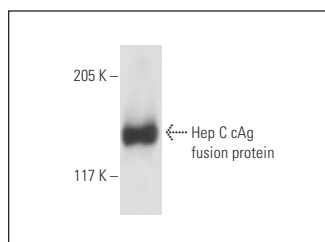
Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Hep C cAg (1868) is recommended for detection of core antigen genotypes 1a, 1b and 2a of hepatitis C virus 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

## DATA



Hep C cAg (1868): sc-69937. Western blot analysis of human recombinant Hepatitis C virus (HCV) core antigen fusion protein.

## SELECT PRODUCT CITATIONS

1. Madejon, A., et al. 2015. Hepatitis C virus-mediated Aurora B kinase inhibition modulates inflammatory pathway and viral infectivity. *J. Hepatol.* 63: 312-319.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



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