

Hep C NS5a (7D4): sc-52417

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 host's immune system. Hep C infection results in chronic infections, liver cirrhosis, and hepatocellular carcinoma in most people. Hep C NS5a (nonstructural protein 5A) is a phosphoprotein and the phosphorylation state of Hep C NS5a is important for the outcome of viral RNA replication.

REFERENCES

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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 laser capture microdissection and enzyme-linked immunosorbent assay. *J. Viral Hepat.* 11: 27-32.
4. Alisi, A., et al. 2005. The 446 phosphorylation of PKR by HCV core protein deregulates G₂/M phase 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. 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.
7. Kimball, P., et al. 2005. HCV core protein augments cyclosporine immunosuppression. *Transplant. Proc.* 37: 652-653.
8. 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.
9. Quintavalle, M., et al. 2006. Hepatitis C virus NS5A is a direct substrate of casein kinase I- α , a cellular kinase identified by inhibitor affinity chromatography using specific NS5A hyperphosphorylation inhibitors. *J. Biol. Chem.* 282: 5536-5544.

SOURCE

Hep C NS5a (7D4) is a mouse monoclonal antibody raised against recombinant Hep C NS5a.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hep C NS5a (7D4) is recommended for detection of an epitope corresponding to amino acids 2190-2300 of NS5a region of Hep C origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Hep C NS5a: 58 kDa.

SELECT PRODUCT CITATIONS

1. Cheng, Y., et al. 2010. A novel class of meso-tetrakis-porphyrin derivatives exhibits potent activities against hepatitis C virus genotype 1b replicons *in vitro*. *Antimicrob. Agents Chemother.* 54: 197-206.
2. Ghosh, S., et al. 2011. Association of filamin A and vimentin with hepatitis C virus proteins in infected human hepatocytes. *J. Viral Hepat.* 18: e568-e577.
3. Sianipar, I.R., et al. 2015. Physical and functional interaction between hepatitis C virus NS5a protein and ovarian tumor protein deubiquitinase 7B. *Microbiol. Immunol.* 59: 466-476.
4. Sa-Ngiamsumton, K., et al. 2016. A robust model of natural hepatitis C infection using hepatocyte-like cells derived from human induced pluripotent stem cells as a long-term host. *Virol. J.* 13: 59.
5. Yamauchi, S., et al. 2016. Stat1 is essential for the inhibition of hepatitis C virus replication by interferon- λ but not by interferon- α . *Sci. Rep.* 6: 38336.

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 for detailed protocols and support products.