



Hep C NS5a (BGN/1246/5A6): sc-80819

BACKGROUND

The hepatitis C virus (HCV) 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. HCV primarily replicates within hepatocytes in the liver, and circulating HCV particles bind to receptors on the surface and enter these cells. HCV replicates quickly, producing approximately one trillion particles each day in infected individuals. HCV 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. HCV infection results in chronic infections, liver cirrhosis and hepatocellular carcinoma in most people. The nonstructural (NS) protein 5a is a phosphoprotein and the phosphorylation state of NS5a is important for the outcome of viral RNA replication.

REFERENCES

1. Watashi, K. and Shimotohno, K. 2003. The roles of hepatitis C virus proteins in 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., Rodriguez, A., Musacchio, A., Falcón, V., Suarez, V.M., Chavez, L., Morales-Grillo, J. and Duenas-Carrera, S. 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., Lauletta, G. and Dammacco, F. 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., Mele, R., Spaziani, A., Tavolaro, S., Palescandolo, E. and Balsano, C. 2005. Thr 446 phosphorylation of PKR by HCV core protein deregulates G₂/M phase in HCC cells. *J. Cell. Physiol.* 205: 25-31.
5. Carabaich, A., Ruvoletto, M., Bernardinello, E., Tono, N., Cavalletto, L., Chemello, L., Gatta, A. and Pontisso, P. 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., Wang, L., Che, Y., Liu, L., Jiang, L., Dong, S., Li, W. and Li, Q. 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., Verbeke, S. and Shiffman, M. 2005. HCV core protein augments cyclosporine immunosuppression. *Transplant. Proc.* 37: 652-653.
8. Alvarez-Lajonchere, L., González, M., Alvarez-Obregón, J.C., Guerra, I., Viña, A., Acosta-Rivero, N., Musacchio, A., Morales, J. and Dueñas-Carrera, S. 2006. Hepatitis C virus (HCV) core protein enhances the immunogenicity of a co-delivered DNA vaccine encoding HCV structural antigens in mice. *Appl. Biochem. Biotechnol.* 44: 9-17.

SOURCE

Hep C NS5 (BGN/1246/5B7) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 2241-2497 of the Japanese isolate of Hep C.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hep C NS5 (BGN/1246/5B7) is recommended for detection of NS5 region of Hep C origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Hep C NS5a: 58 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

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 or our catalog for detailed protocols and support products.