

Hep C NS3 (328): sc-57772

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 NS3 (nonstructural protein 3) has both protease and helicase activity and is essential for Hep C replication and proliferation.

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. Umehara, T., Fukuda, K., Nishikawa, F., Sekiya, S., Kohara, M., Hasegawa, T. and Nishikawa, S. 2004. Designing and analysis of a potent bifunctional aptamers that inhibit protease and helicase activities of HCV NS3. *Nucleic Acids Symp. Ser.* 48: 195-196.
5. 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 HCC cells. *J. Cell. Physiol.* 205: 25-31.
6. 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.
7. 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.
8. Kimball, P., Verbeke, S. and Shiffman, M. 2005. HCV core protein augments cyclosporine immunosuppression. *Transplant Proc.* 37: 652-653.

SOURCE

Hep C NS3 (328) is a mouse monoclonal antibody raised against a chimeric polyprotein corresponding to 555 amino acids within the internal region of Hep C.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hep C NS3 (328) is recommended for detection of an epitope corresponding to amino acids 1252-1477 of the NS3 region of Hep C origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); non cross-reactive with core, Envelope Protein M (EPM), NS3 or NS4 regions.

Molecular Weight of Hep C NS3: 70 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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

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.