Hep C NS4 (497): sc-57775



The Power to Question

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 activities and is essential for Hep C replication and proliferation. Hep C NS4 (nonstructural protein 4) augments the proteolytic activity of Hep C NS3 through protein-protein interaction.

REFERENCES

- 1. Back, S.H., Kim, J.E., Rho, J., Hahm, B., Lee, T.G., Kim, E.E., Cho, J.M. and Jang, S.K. 2000. Expression and purification of an active, full-length Hepatitis C viral NS4a. Protein Expr. Purif. 20: 196-206.
- 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.
- 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 in *Pichia pastoris*. Biochem. Biophys. Res. Commun. 323: 926-931.
- 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.
- 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.
- 6. Alisi, A., Mele, R., Spaziani, A., Tavolaro, S., Palescandolo, E. and Balsano, C. 2005. Thr 446 phosphorylation of PKR by HCV core protein deregulates $\rm G_2/M$ phase HCC cells. J. Cell. Physiol. 205: 25-31.
- 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.
- 8. 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.

STORAGE

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

SOURCE

Hep C NS4 (497) 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 IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hep C NS4 (497) is recommended for detection of an epitope corresponding to amino acids 1689-1735 of the NS4 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) or NS3 regions.

Molecular Weight of Hep C NS4A: 8 kDa. Molecular Weight of Hep C NS4B: 27 kDa.

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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Furope +00800 4573 8000 49 6221 4503 0 www.scbt.com