

Hep C NS5b (1826): sc-58146

BACKGROUND

Hep C (Hepatitis C), the major causative agent of chronic and sporadic non-A, non-B hepatitis worldwide, and Hep G, which is closely related to Hep C, are members of the hepacivirus genus of the *Flaviviridae* family. Nonstructural (NS) proteins of Hep C play major roles in viral replication and the pathogenesis of liver diseases. Hep C NS (non-structural protein), including NS5a, form a large multiprotein replication complex, which directs the replication of the Hep C genome. The Hep C NS5a has been shown to inhibit the cellular interferon (IFN)-induced protein kinase R (PKR). The Hep C NS5b is an RNA-dependent RNA polymerase (RdRp) which plays an essential role in viral RNA replication. The Hep C NS3 protein contains protease and RNA helicase activities, both of which are likely to be essential for Hep C propagation. The Hep G NS3 protease is responsible for the cleavage of the Hep G polyprotein at four different locations. The small proteins NS2a, NS2b, NS4a and NS4b are hydrophobic, suggesting a possible membrane-related function.

REFERENCES

1. Pawlotsky, J.M. and Germanidis, G. 1999. The non-structural 5A protein of hepatitis C virus. *J. Viral Hepat.* 6: 343-356.
2. Lohmann, V., Roos, A., Korner, F., Koch, J.O. and Bartenschlager, R. 2000. Biochemical and structural analysis of the NS5B RNA-dependent RNA polymerase of the hepatitis C virus. *J. Viral Hepat.* 7: 167-174.
3. Garcia, F., Jr., Garcia, F., Bernal, M.C., Piedrola, G. and Maroto, M.C. 2000. Genomic variability of hepatitis G virus/GBV-C at the NS3 region: clinical implications. *Microbios* 102: 17-25.
4. Ingravallo, P., Lahser, F., Xia, E., Sadowich, B., Lai, V.C., Hong, Z. and Zhong, W. 2001. Characterization of monoclonal antibodies that specifically recognize the palm subdomain of hepatitis C virus nonstructural protein 5B polymerase. *Virus Res.* 75: 179-187.
5. He, Y., Tan, S.L., Tareen, S.U., Vijaysri, S., Langland, J.O., Jacobs, B.L. and Katze, M.G. 2001. Regulation of mRNA translation and cellular signaling by hepatitis C virus nonstructural protein NS5A. *J. Virol.* 75: 5090-5098.
6. Rho, J., Choi, S., Seong, Y.R., Choi, J. and Im, D.S. 2001. The arginine-1493 residue in 1493 motif IV of the hepatitis C virus NS3 helicase domain is essential for NS3 protein methylation by the protein arginine methyltransferase 1. *J. Virol.* 75: 8031-8044.
7. Lee, Y.J., Kang, H., Rho, S.H., Eom, S.H. and Park, W.J. 2001. Assessment of substrate specificity of hepatitis G virus NS3 protease by a genetic method. *Biochem. Biophys. Res. Commun.* 286: 171-175.

SOURCE

Hep C NS5b (1826) is a mouse monoclonal antibody raised against hepatitis C virus.

PRODUCT

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

APPLICATIONS

Hep C NS5b (1826) is recommended for detection of NS5b genotypes 1a and 1b of hepatitis C virus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Hep C NS5b: 58 kDa.

SELECT PRODUCT CITATIONS

1. Masalova, O.V., Lesnova, E.I., Permyakova, K.Y., Samokhvalov, E.I., Ivanov, A.V., Kochetkov, S.N. and Kushch, A.A. 2016. Effect of hepatitis C virus proteins on the production of proinflammatory and profibrotic cytokines in Huh7.5 human hepatoma cells. *Mol. Biol.* 50: 486-495.
2. Sa-Ngiamsumton, K., Wongkajornsilp, A., Phanthong, P., Borwornpinyo, S., Kitiyanant, N., Chantratita, W. and Hongeng, S. 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. *Virology* 53: 59.
3. Masalova, O.V., Lesnova, E.I., Solyev, P.N., Zakirova, N.F., Prassolov, V.S., Kochetkov, S.N., Ivanov, A.V. and Kushch, A.A. 2017. Modulation of cell death pathways by hepatitis C virus proteins in Huh7.5 hepatoma cells. *Int. J. Mol. Sci.* 18: 2346.
4. Masalova, O.V., Lesnova, E.I., Klimova, R.R., Ivanov, A.V. and Kushch, A.A. 2021. Mesenchymal stem cells can both enhance and inhibit the cellular response to DNA immunization by genes of nonstructural proteins of the hepatitis C virus. *Int. J. Mol. Sci.* 22: 8121.

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.