

Hep C E1 (1879): sc-65459

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 immune system of the host. Hep C infection results in chronic infections, liver cirrhosis and hepatocellular carcinoma in most people. The transmembrane (TM) domains of Hep C envelope glycoproteins E1 and E2 play multiple functions during the biogenesis of the E1E2 heterodimer. E1 and E2 also play an important role in cell entry.

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., 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 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., et al. 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., 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. Shin, J.Y., et al. 2005. HCV core protein promotes liver fibrogenesis via up-regulation of CTGF with TGF- β 1. *Exp. Mol. Med.* 37: 138-145.

SOURCE

Hep C E1 (1879) is a mouse monoclonal antibody raised against recombinant Hep C E1.

PRODUCT

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

STORAGE

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

APPLICATIONS

Hep C E1 (1879) is recommended for detection of E1 genotypes 1a and 1b 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 E1: 31 kDa.

SELECT PRODUCT CITATIONS

1. Butt, S., et al. 2011. Establishment of stable Huh-7 cell lines expressing various hepatitis C virus genotype 3a protein: an *in vitro* testing system for novel anti-HCV drugs. *Genet. Vaccines Ther.* 9: 12.
2. Timokhova, A.V., et al. 2012. Affect of deoxyjirimycin derivatives on hepatitis C virus morphogenesis. *Mol. Biol.* 46: 644-653.
3. Orlova, O.V., et al. 2013. Role of N-linked glycans in HCV glycoprotein E1 in the folding of structural proteins and formation viral particles. *Mol. Biol.* 47: 147-156.
4. Rafique, S., et al. 2014. Generation of infectious HCV pseudo typed particles and its utilization for studying the role of CD81 & SRBI receptors in HCV infection. *Mol. Biol. Rep.* 41: 3813-3819.
5. Rafique, S., et al. 2014. Studies on the role of neutralizing antibodies against envelope genes in resolving HCV pseudo-particles infection. *Mol. Biol. Rep.* 41: 3945-3950.
6. Orlova, O.V., et al. 2015. The role of HCV E2 protein glycosylation in functioning of virus envelope proteins in insect and mammalian cells. *Acta Naturae* 7: 87-97.
7. Beljelarskaya, S.N., et al. 2016. Hepatitis C virus: the role of N-glycosylation sites of viral genotype 1b proteins for formation of viral particles in insect and mammalian cells. *Biochem. Biophys. Rep.* 7: 98-105.

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.