SANTA CRUZ BIOTECHNOLOGY, INC.

Hep C cAg (C7-50): sc-57800

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 core protein of Hep C is well conserved among the different viral genotypes and may contribute to the hepatic fibrogenesis by up-regulating connective tissue growth factor and TGFβ1.

REFERENCES

1. Watashi, K., et al. 2003. The roles of hepatitis C virus proteins in modulation of cellular functions: 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.

SOURCE

Hep C cAg (C7-50) is a mouse monoclonal antibody raised against a conserved linear epitope mapping to amino acids 21-40 of Hep C cAg.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Hep C cAg (C7-50) is available conjugated to agarose (sc-57800 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57800 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-57800 PE), fluorescein (sc-57800 FITC), Alexa Fluor® 488 (sc-57800 AF488), Alexa Fluor® 546 (sc-57800 AF546), Alexa Fluor® 594 (sc-57800 AF594) or Alexa Fluor® 647 (sc-57800 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-57800 AF680) or Alexa Fluor® 790 (sc-57800 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

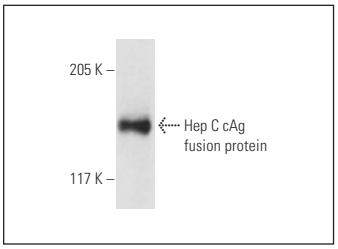
Hep C cAg (C7-50) is recommended for detection of the core antigen of Hep C transfected human and primate cell lines of Hepatitis C Virus by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of Hep C cAg: 15 kDa.

STORAGE

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

DATA



Hep C cAg (C7-50): sc-57800. Western blot analysis of human recombinant Hepatitis C virus (HCV) core antigen fusion protein.

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. Deng, Z., et al. 2012. Hepatitis C virus sensitizes host cells to TRAIL-induced apoptosis by up-regulating DR4 and DR5 via a MEK1-dependent pathway. PLoS ONE 7: e37700.
3. Huang, H., et al. 2013. Hepatitis C virus inhibits Akt-tuberous sclerosis complex (TSC), the mechanistic target of rapamycin (MTOR) pathway, through endoplasmic reticulum stress to induce autophagy. Autophagy 9: 175-195.
4. Wang, J., et al. 2014. Hepatitis C virus core protein activates autophagy through EIF2AK3 and ATF6 UPR pathway-mediated MAP1LC3B and ATG12 expression. Autophagy 10: 766-784.
5. Rajalakshmy, A.R., et al. 2015. Mebiolgel, a thermoreversible polymer as a scaffold for three dimensional culture of Huh7 cell line with improved hepatocyte differentiation marker expression and HCV replication. Indian J. Med. Microbiol. 33: 554-559.
6. Zayas, M., et al. 2016. Coordination of hepatitis C virus assembly by distinct regulatory regions in nonstructural protein 5A. PLoS Pathog. 12: e1005376.
7. Wong, M.T. and Chen, S.S. 2016. Human choline kinase-α promotes hepatitis C virus RNA replication through modulation of membranous viral replication complex formation. J. Virol. 90: 9075-9095.
8. Shier, M.K., et al. 2016. Hepatitis c virus genotype 4 replication in the hepatocellular carcinoma cell line Hep G2/C3A. Saudi J. Gastroenterol. 22: 240-248.
9. Karamichali, E., et al. 2017. The unexpected function of a highly conserved YXXϕ motif in HCV core protein. Infect. Genet. Evol. 54: 251-262.

RESEARCH USE

For research use only, not for use in diagnostic procedures.