

Anti- HCV core protein antibody, mouse monoclonal (H6-29), biotin conjugated

65-053 50 µg

Hepatitis C virus (HCV) is a small (55-65 nm in size), enveloped, positive sense single-stranded RNA virus in the family *Flaviviridae* and the principal cause of parenteral non-A, non-B hepatitis. The virus genome consists of a single open reading frame of approximately 9.4 kb which encodes a single polyprotein of about 3,010 amino acids (1, 2, 3). The polyprotein is processed by host cell and viral proteases into four structural proteins (core, envelope 1 and 2, and p7) and six non-structural proteins (NS2, 3, 4a, 4b, 5a, and 5b) necessary for viral replication. HCV core protein is not only a component of nucleocapsid but also has multiple functions and is a pathogenic factor for hepatitis. It also participates in some cellular processes, including transcriptional regulation and cellular transduction. HCV core antigen is used as diagnostic marker for HCV infection.

Applications

1. Western blot
2. Immunohistochemistry
3. Immunofluorescence staining
4. ELISA
5. FACS

Specification

Immunogen: A part of the core region (nucleotides 369-704, amino acids 13-124) of HCV expressed in *E. coli* (the nucleotide sequence is shown in ref.3)

Conjugate: Biotin conjugated, [biotin] / [IgG] = 6.6

Isotype: Mouse IgG2a kappa

Form: 0.7 mg/ml in PBS, 50% glycerol, filter-sterilized

Specificity: Specific to human HCV core antigen of genotype 1b. Not tested in other genotype

Storage: Ship at 4°C and long term storage at -20°C

Data Link: Swiss-Prot [HCV protein](#)

References: This antibody is used in ref.4 and 5.

1. Brass V, Moradpour D, Blum HE. Molecular Virology of Hepatitis C Virus (HCV): 2006 Update. *Int J Med Sci* 2006; 3:29-34. [PMID: 16614739](#)
2. Kato, N. *et al.* (1990) "Molecular cloning of the human hepatitis C virus genome from Japanese patients with non-A, non-B hepatitis." *Proc. Natl. Acad. Sci. USA* 87, 9524-9528 [PMID: 2175903](#)
3. Takamizawa, A. *et al.* (1991) "Structure and organization of the hepatitis C virus genome isolated from human carriers." *J. Virol.*65, 1105-1113 [PMID: 1847440](#)
4. Manabe, S. *et al.* (1994) "Production of nonstructural proteins of hepatitis C virus requires a putative viral protease encoded by N3." *Virology* 198, 636-644 [PMID: 8291245](#)
5. Hiramatsu, N. *et al.* (1992) "Immunohistochemical detection of hepatitis C virus-infected hepatocytes in chronic liver disease with monoclonal antibodies to core, envelope and NS3 regions of the hepatitis C virus genome." *Hepatology*, 16, 306-311 [PMID: 1379209](#)

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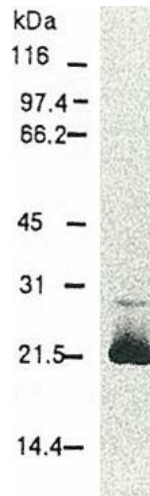


Fig. 1 Western blot of HCV core protein. Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA and were subjected to Western blot using this antibody. The core protein is detected as a 22kDa band.

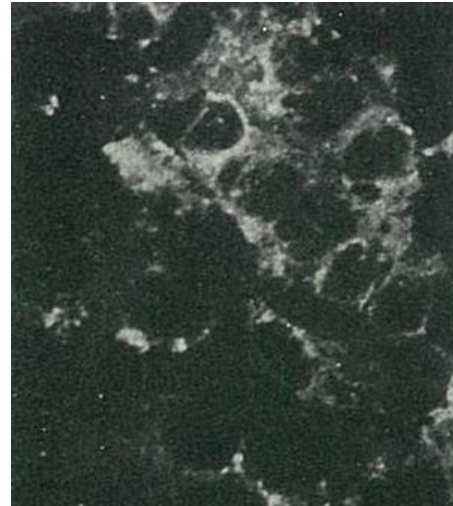


Fig.2 Detection of HCV core protein by immunofluorescence antibody staining. Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA. After incubation for 48 hr, the cells were fixed with acetone and HCV core protein was detected by indirect immunofluorescence staining using this antibody.

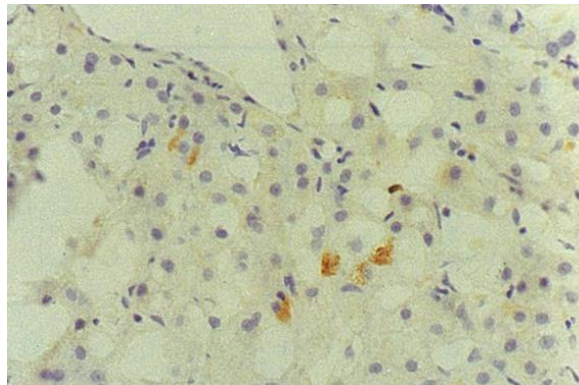


Fig.3 Immunohistochemical detection of HCV core protein. Tissue section from a patient with chronic hepatitis C was immunostained to reveal cells expressing HCV core antigen, which are scattered in the lobules (indirect immunohistochemical method, counterstained with Mayer's hematoxylin).