

## Anti-Hepatitis Virus (HCV) core protein antibody, monoclonal (H6-29)

65-051 20 µg, 65-052 100 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, envelope1 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 thought to be 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 blotting
2. Immunohistochemistry
3. Immunofluorescence staining
4. ELISA

**Immunogen:** A part of the **core** region (nucleotides 369-704, amino acids 13-124) of **HCV genotype 1b** expressed in *E. coli* (the nucleotide sequence is shown in ref.3)

**Isotype:** Mouse IgG2a kappa

**Form:** Purified monoclonal antibody (IgG) 1mg/ml in PBS, 50% glycerol, filter-sterilized

**Specificity:** Specific to human HCV core antigen. **Storage:** -20

**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](#)

**Related products:** 1. #65-056 anti-HCV NS4a antibody

2. #65-066 anti-HCV NS5b antibody

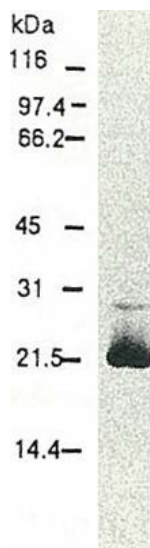


Fig.1 Western blotting of HCV core protein. Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA and were subjected to Western blotting using this antibody. The core protein is detected as a 22-kDa band.



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.

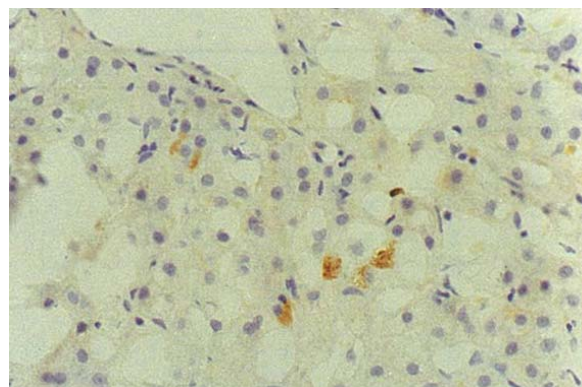


Fig.3 Immunohistochemical detection of HCV core protein. Tissue section from a patient with chronic hepatitis C was immunostained to reveal cells expressing HCV core antigen, which are scattered in the lobules (indirect immunohistochemical method, counterstained with Mayer's hematoxylin).