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Inspiration for Life Science

MONOCLONAL ANTIBODY

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Catalog No. BAM-65-052-EX

Anti-Hepatitis C Virus (HCV) core protein (H6-29)

BACKGROUND

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.

Product type	Primary antibodies
Host	Mouse
Source	
Form	Liquid Purified monoclonal antibody (IgG) 1mg/ml in PBS, 50% glycerol, filter-sterilized
Volume	100 μg
Concentration	
Specificity	HCV core protein
Antigen	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)
Clone	H6-29
Isotype	Mouse IgG2a kappa

Application notes	WB, IHC, IF, ELISA **Recommended use** **Recommended dilutions** Optimal dilutions/concentrations should be determined by the end user. Data Link: Swiss-Prot HCV protein **Staining Pattern**
Cross reactivity	Specific to human HCV core antigen
Storage	-20°C

References

(This antibody is used in ref.4 and 5.)

1) Brass V *et al* (2006)"Molecular Virology of Hepatitis C Virus (HCV): 2006 Update" *Int J Med Sci* **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

BAM-65-056-EX	anti-HCV NS4a antibody
BAM-65-061-EX	anti-HCV NS5a antibody
BAM-65-066-EX	anti-HCV NS5b antibody

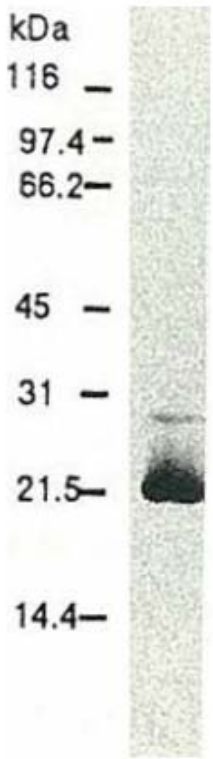

Fig.1 Western blotting of HCV core protein.
Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA and were subjected to Western blotting using this antibody. The core protein is detected as a 22-kDa band.

Fig.2 Detection of HCV core protein by immuno-fluorescence 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.

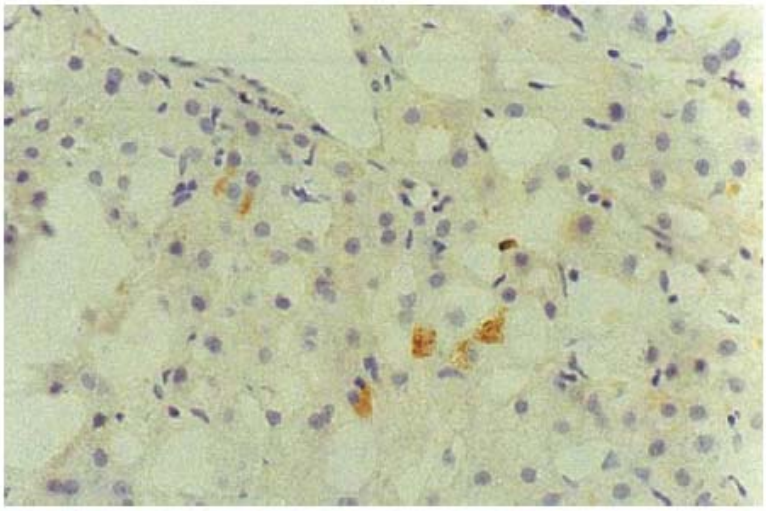

Fig.3 Immunohistochemical detection of HCV core protein.
Tissue section from a patient with chronic hepatitis C was immunostained to reveal cells expressing HCV core antigen, which are scattered in the lobules (indirect immuno-histochemical method, counterstained with Mayer's hematoxylin).

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