

Anti-Hepatitis C Virus (HCV) NS4a protein antibody, monoclonal (S4-13)

Catalog # 65-057 100 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 9,400 bases 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. NS3 serine proteinase is responsible for proteolytic processing of other non-structural proteins. NS4a protein (54 amino acids) forms a complex with NS3 and functions as a cofactor for NS3 protease activity.

Applications

1. Western blot
 2. Immunofluorescence staining
 3. ELISA
- Other applications have not been tested.

Specification

Immunogen: A region of NS4 protein of HCV genotype 1b (reference 4) expressed in *E. coli*. The epitope of this antibody was mapped to the N-terminal region of the NS4 protein (NS4a).

Isotype: Mouse IgG2b kappa

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

Specificity: Specific to human HCV NS4a protein of genotype 1b. It does not react with genotype 1a and 2a.

Storage: ship 4°C and store at -20°C

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

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

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](#)

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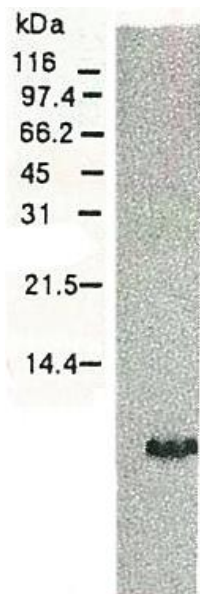


Fig. 1 Western blot of HCV NS4A protein.

Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA and were analyzed by Western blot using anti-NS4a antibody. The protein detected with this antibody is 6 kD. This small NS4 protein (NS4a) was produced from the N-terminal region of the NS4 protein.

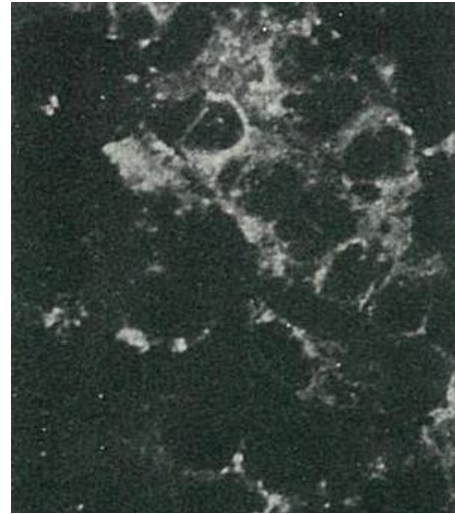


Fig. 2 Detection of HCV NS4a protein by immunofluorescence antibody staining.

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 NS4a protein was detected by indirect immunofluorescence staining using this antibody.