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

**65-057 100 µg**

**Shipping and Storage**: Shipped at 4℃ or -20℃ and store at -20℃.

**Immunogen:** A region of NS4 protein of HCV genotype 1b (1658-1972 aa of genome polyprotein) expressed in *E.coli*.

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

**Isotype**: Mouse IgG2b κ

**Reactivity**: **Reacts with human HCV NS4a protein of genotype 1b.** The epitope of this antibody was mapped to the N-terminal region of the NS4 protein (**NS4a**).

**It does not react with genotypes 1a, and 2a.**

**Applications**

1. Western blotting (1/1,000)
2. Immunofluorescence staining (1/100-1/300)
3. ELISA (Assay dependent)

Other applications have not been tested.

**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 9,400 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 comlex with NS3 and functions as a cofactor for NS3 protease activity.

**Data Link**: UniProtKB Q9WMX2 (POLG_HCVCO)

**References**: **This antibody has been described and used in the following publication.**

. 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

**Related products:**

65-052 Anti- HCV core protein antibody, monoclonal (H6-29)

65-053 Anti- HCV core protein antibody, mouse monoclonal (H6-29), biotin conjugated

65-054 Anti- HCV core protein antibody, mouse monoclonal (H6-29), FITC-conjugated

65-058 Anti- HCV NS4a protein antibody, monoclonal (S4-13), biotin conjugated

65-059 Anti- HCV NS4a protein antibody, monoclonal (S4-13), FITC conjugated

65-062 Anti- HCV NS5a protein antibody, mouse monoclonal (8926)

65-063 Anti- HCV NS5a protein antibody, monoclonal (8926), Biotin conjugated

65-064 Anti- HCV NS5a protein antibody, monoclonal (8926), FITC conjugated

65-067 Anti- HCV NS5b protein antibody, mouse monoclonal (NS5B-6)

65-068 Anti- HCV NS5b protein antibody, mouse monoclonal (NS5B-6), biotin conjugated

65-069 Anti- HCV NS5b protein antibody, mouse monoclonal (NS5B-6), FITC conjugated

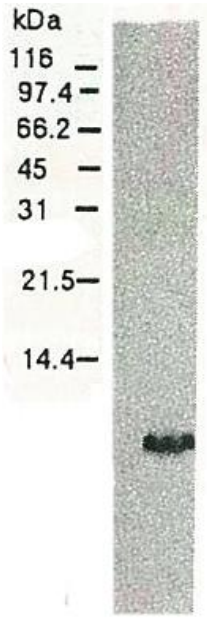


**Fig.1 Western blotting of HCV NS4A protein.**
Chimp liver cells were infected with recombinant vaccinia virus containing HCV genome cDNA and were subjected to Western blotting using anti-NS4a antibody. The protein detected with this antibody is
6 kD. This small NS4 protein (NS4a) was produced from the N-terminal region of the NS4 protein.

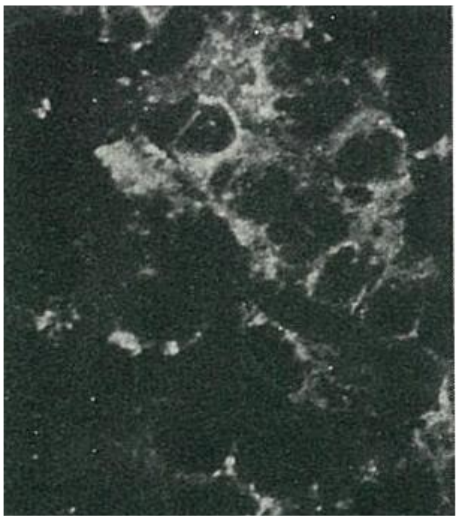

**Fig.2 Detection of HCV NS4a protein by immuno-fluorescent antibody staining.**
Chimp liver cells were infected with recombinant vaccinia virus containing a HCV genome cDNA. After incubation for 48 hr, the cells were fixed with acetone and HCV NS4a protein was detected by indirect immunofluorescence staining using this antibody.