

## HCV-NS5-G3a (residues 2212-2313)

Hepatitis C Virus Non-Structural protein, Genotype 3a  
recombinant, *E. coli*

Cat. No.	Amount
PR-1176-1	1 mg

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

### Avoid freeze / thaw cycles

### Form

Liquid. Supplied in 50 mM Tris pH 8.0 and 5 mM EDTA.

### Specificity

Immunoreactive with sera of HCV-infected individuals.

### Purity

>95% by SDS-PAGE and RP-HPLC

### Description

The protein contains the HCV-NS5 genotyp 3a immunodominant region, amino acids 2212-2313. Hepatitis C Virus NS5 protein is purified by proprietary chromatographic techniques.

### Application

Antigen in ELISA and Western blots, excellent antigen for detection of HCV with minimal specificity problems.

### Background

The hepatitis C virus (HCV) NS5A gene product is a phosphorylated 56 to 58 kDa nonstructural protein that displays a multitude of activities related to enhancement of viral pathogenesis. Although associated with other viral encoded proteins as part of the viral replicase complex positioned on the cytoplasmic side of the endoplasmic reticulum, a role for NS5A in viral replication has not been defined. Truncated versions of NS5A can act as transcriptional activators, while other recently characterized interactions of NS5A with cellular proteins indicate its pleiotropic role in HCV-host interactions. It has been shown that NS5B is a membrane-associated protein, which contains a C-terminal domain comprising 21 hydrophobic amino acids that is responsible for membrane anchorage. NS5B may form a complex with cellular proteins or other HCV nonstructural proteins, including NS3, the viral protease and helicase; NS4A, a cofactor of NS3 protease activity; and NS5A, a phosphoprotein containing a putative interferon sensitivity region. Although the HCV replication mechanism is not clearly understood, the essential role of NS5B polymerase in the HCV replication and infection process has been demonstrated in chimpanzees. Accordingly, it has been viewed as an attractive target for antiviral intervention.

### Selected References:

- Kalliampakou *et al.* (2005) Hepatitis C virus (HCV) NS5A protein downregulates HCV IRES-dependent translation. *J. Gen. Virol.* **86**:1015.  
Yeh *et al.* (2005) Characterization of a HCV NS5A protein derived from a patient with hepatoma. *Biochem. Biophys. Res. Commun.* **327**:516.  
Beaulieu P.L. and Tsantrizos Y.S. (2004) Inhibitors of the HCV NS5B polymerase: new hope for the treatment of hepatitis C infections. *Curr. Opin. Investig. Drugs.* **5**:838.  
Gopalsamy *et al.* (2004) Discovery of pyrano[3,4-b]indoles as potent

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and selective HCV NS5B polymerase inhibitors. *J. Med. Chem.*  
**47**:6603.

Summa *et al.* (2004) HCV NS5b RNA-dependent RNA polymerase  
inhibitors: from alpha, gamma-diketoacids to 4,5-dihydroxypyrimidine-  
or 3-methyl-5-hydroxypyrimidinonecarboxylic acids. Design and  
synthesis. *J. Med. Chem.* **47**:5336.

Yannopoulos *et al.* (2004) HCV NS5B polymerase-bound conformation  
of a soluble sulfonamide inhibitor by 2D transferred NOESY. *Bioorg.*  
*Med. Chem. Lett.* **14**:5333.