

HCV-NS3-S1a (residues 1359-1456)

Hepatitis C Virus Non-Structural protein, Subtype 1a
recombinant, *E. coli*

Cat. No.	Amount
PR-1153-1	1 mg

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

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 25 mM Tris-HCl pH 8.0, 0.2% Triton-X 100, 1.5 M urea and 50% glycerol.

Specificity

Immunoreactive with sera of HCV-infected individuals.

Purity

>95% by SDS-PAGE

Description

The protein contains the HCV NS3 (c33c) immunodominant region, amino acids 1359-1456.

Hepatitis C NS3 protein is purified by proprietary chromatographic techniques.

Applications

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

Background

The nonstructural protein NS3 of the hepatitis C virus (HCV) is indispensable for virus replication and a multi-functional enzyme that contains three catalytic activities such as serine protease, helicase, and NTPase. The N-terminal domain of the protein contains protease activity and the C-terminal domain contains nucleotide triphosphatase and RNA helicase activity.

It has been shown that NS2/3 cleavage is mediated by NS2-3 protease, whereas NS3 serine protease is responsible for the other four cleavage sites of the nonstructural (NS) region.

Immunoblot analysis on serum samples from 90 patients with chronic hepatitis C virus infection revealed four putative immunogenic regions within the NS3 protein of the virus: E (around amino acids 1250/1251), A (within amino acids 1250-1334), A/B (around amino acids 1323 and 1334), and B/C (around amino acids 1407 and 1412). Among them, region E was most immunodominant, and region A was recognized much less frequently by patients with cirrhosis than by those with chronic hepatitis.

Selected References:

- Gal-Tanamy *et al.* (2005) HCV NS3 serine protease-neutralizing single-chain antibodies isolated by a novel genetic screen. *J. Mol. Biol.* **347**:991.
- Duan *et al.* (2004) Antiviral compounds from traditional Chinese medicines Galla Chinese as inhibitors of HCV NS3 protease. *Bioorg. Med. Chem. Lett.* **14**:6041.
- Sun *et al.* (2004) P4 cap modified tetrapeptidyl alpha-ketoamides as potent HCV NS3 protease inhibitors. *Bioorg. Med. Chem. Lett.* **14**:4333.
- Nizi *et al.* (2004) Capped dipeptide phenethylamide inhibitors of the HCV NS3 protease. *Bioorg. Med. Chem. Lett.* **14**:2151.
- Liu *et al.* (2003) Double-stranded DNA-induced localized unfolding of HCV NS3 helicase subdomain 2. *Protein Sci.* **12**:2757.
- Hedge *et al.* (2003) Two antiviral compounds from the plant *Stylogne*



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cauliflora as inhibitors of HCV NS3 protease. *Bioorg. Med. Chem. Lett.* **13**:2925.