

## Product Information

### HCV Core Antigen recombinant, expressed in *E. coli*

Catalog Number **H9034**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

#### Product Description

This product is the hepatitis C virus (HCV) core antigen, amino acids 2–192 of the HCV polyprotein, which has been expressed in *E. coli* as a  $\beta$ -galactosidase tagged protein. The 2–192 region represents the viral precursor polyprotein and HCV core nucleocapsid immunodominant region. The HCV core protein is co-translationally inserted into the endoplasmic reticulum membrane.

The HCV core protein is highly basic and acts as a carrier/chaperone for RNA.<sup>1,2</sup> It contains three major domains with particular functions:<sup>2</sup>

- The N-terminal hydrophilic domain of ~120 amino acids (domain D1), a highly basic region with many positively charged amino acids that is involved mainly in RNA binding
- A hydrophobic domain of ~50 amino acids (domain D2), involved in core association with endoplasmic reticulum membranes and with lipid droplets in mammalian cells, and core folding and oligomerization<sup>3</sup>
- A signal peptide, containing the final 20 amino acids, for the downstream protein E1

This product of the HCV core antigen fused to the N-terminal of  $\beta$ -galactosidase is a construct of ~136 kDa. It reacts positively with human HCV serum and may be used as a positive control for HCV antibodies in various immunoassay procedures.

This product is supplied as a solution at a concentration of ~1 mg/ml in 20 mM Tris-HCl, pH 8.0, containing 8 M urea and 10 mM  $\beta$ -mercaptoethanol.

Purity:  $\geq 95\%$  (SDS-PAGE)

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

This product ships on dry ice and is stable at  $-20\text{ }^{\circ}\text{C}$  for at least a year. Upon thawing, store at  $2\text{--}4\text{ }^{\circ}\text{C}$  for one month or as frozen aliquots at  $-20\text{ }^{\circ}\text{C}$ . Avoid repeated freeze-thaw cycles.

#### References

1. Cristofari, G. *et al.*, *Nucleic Acids Res.*, **32(8)**, 2623-2531 (2004).
2. Boulant, S. *et al.*, *J. Virol.*, **79(17)**, 11353-11365 (2005).
3. Kunkel, M., and Watowich, S.J., *FEBS Lett.*, **557(1-3)**, 174-180 (2004).

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