

RV gE1 Mosaic (residues 157-176, 374-390, 213-239)

Rubella Virus Glycoprotein E1

recombinant, *E. coli*

Cat. No.	Amount
PR-1228	100 µg

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

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 20 mM imidazole, 8 M urea and 0.3 M NaCl.

Application

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

Specificity

Immunoreactive with all sera of Rubella virus-infected individuals.

Purity

>95% by SDS-PAGE and RP-HPLC

Description

The protein contains glycoprotein E1 immunodominant fragments, amino acids: 157-176, 213-239, and 374-390.

The protein is purified by proprietary chromatographic technique.

Background

Rubella virus is an enveloped positivestrand RNA virus of the family *TOGAVIRIDAE*. The genome encodes two open reading frames (ORFs): the 5'-proximal ORF encodes viral nonstructural proteins (NSP) that are responsible for viral genome replication, while the 3'-proximal ORF encodes three virion structural proteins (SP), the capsid protein (CP), and the two envelope glycoproteins, E2 and E1. During virus assembly, the capsid interacts with genomic RNA to form nucleocapsids. The rubella virus (RV) structural proteins: capsid, E2, and E1 are synthesized as a polyprotein precursor. The signal peptide that initiates translocation of E2 into the lumen of the endoplasmic reticulum remains attached to the carboxy terminus of the capsid protein after cleavage by signal peptidase.

Selected References:

- Ramanujam *et al.* (2001) Effect of site-directed asparagine to isoleucine substitutions at the N-linked E1 glycosylation sites on rubella virus viability. *Virus Res.* **81**:151.
- Qiu *et al.* (2000) Mutations in the E1 hydrophobic domain of rubella virus impair virus infectivity but not virus assembly. *J. Virol.* **74**:6637.
- Corboba *et al.* (2000) Neutralizing monoclonal antibody to the E1 glycoprotein epitope of rubella virus mediates virus arrest in VERO cells. *Viral. Immunol.* **13**:83.
- Yao *et al.* (2000) A single-amino-acid substitution of a tyrosine residue in the rubella virus E1 cytoplasmic domain blocks virus release. *J. Virol.* **74**:3029.
- Yao *et al.* (1999) Mutational analysis, using a full-length rubella virus cDNA clone, of rubella virus E1 transmembrane and cytoplasmic domains required for virus release. *J. Virol.* **73**:4622.
- Yang *et al.* (1998) Effects of mutations in the rubella virus E1 glycoprotein on E1-E2 interaction and membrane fusion activity. *J. Virol.* **72**:8747.