

## Recombinant Zaire ebolavirus GP, His-tagged

GP-24Z Zaire ebolavirus

Lot. No. (See product label)

### Specification

#### Product Overview

A DNA sequence encoding the Zaire ebolavirus (strain Mayinga 1976) GP (Met1-Gln650) was expressed with a polyhistidine tag at the C-terminus.

#### Description

The fourth gene of the EBOV genome encodes a 160-kDa envelope-attached glycoprotein (GP) and a 110 kDa secreted glycoprotein (sGP). Both GP and sGP have an identical 295-residue N-terminus, however, they have different C-terminal sequences. Recently, great attention has been paid to GP for vaccines design and entry inhibitors isolation. GP is a class I fusion protein which assembles as trimers on viral surface and plays an important role in virus entry and attachment. Mature GP is a disulfide-linked heterodimer formed by two subunits, GP1 and GP2, which are generated from the proteolytical process of GP precursor (pre-GP) by cellular furin during virus assembly. The GP1 subunit contains a mucin domain and a receptor-binding domain (RBD); the GP2 subunit has a fusion peptide, a helical heptad-repeat (HR) region, a transmembrane (TM) domain, and a 4-residue cytoplasmic tail. The RBD of GP1 mediates the interaction of EBOV with cellular receptor (e.g. DC-SIGN/LSIGN, TIM-1, hMGL, NPC1,  $\beta$ -integrins, folate receptor- $\alpha$ , and Tyro3 family receptors), of which TIM1 and NPC1 are essential for EBOV entry; the mucin domain having N- and O-linked glycans enhances the viral attachment to cellular hMGL, and participates in shielding key neutralization epitopes, which helps the virus evades immune elimination. There are large conformation changes of GP2 during membrane fusion, which enhance the insertion of fusion loop into cellular membrane and facilitate the release of viral nucleocapsid core to cytoplasm.

#### Source

Baculovirus-Insect Cells

#### Species

Zaire ebolavirus

#### Tag

His

#### Predicted N Terminal

Ile

#### Form

Lyophilized from sterile 20mM Tris, 500mM NaCl, 10% glycerol, pH 8.0.

#### Molecular Mass

The recombinant Zaire ebolavirus (strain Mayinga 1976) GP consists 629 amino acids and predicts a molecular mass of 69.3 kDa.

#### Endotoxin

<1.0 eu per  $\mu$ g protein as determined by the lal

#### Purity

>95% as determined by SDS-PAGE

#### Stability

Samples are stable for up to twelve months from date of receipt at -70oC.

#### Storage

Store it under sterile conditions at -20oC to -80oC. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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**Reconstitution** A hardcopy of COA with reconstitution instruction is sent along with the products.?

**Shipping** In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

## Gene Information

**Gene Name** [GP virion spike glycoprotein precursor \[ Zaire ebolavirus \]](#)

**Official Symbol** GP

**Synonyms** GP; EBOV-G; Glycoprotein; spike glycoprotein; virion spike glycoprotein; small secreted glycoprotein; second secreted glycoprotein; NP\_066246.1; an addition A residue is inserted during transcription; encodes two disulfide linked subunits GP1 and GP2; NP\_066247.1; sGP secreted as a anti-parallel oriented homodimer; NP\_066248.1; second non-structural secreted glycoprotein; secreted in a monomeric form; one A residue is deleted or two additional A residues are inserted at the editing site during transcription of the GP gene

**Gene ID** [911829](#)

**Protein Refseq** [NP\\_066246](#)

**UniProt ID** [AAD14585](#)

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