

Recombinant Yellow Fever Virus Envelope Protein, sFc-tagged

Cat. No. YEL-625 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

This Yellow Fever virus Envelope protein has been manufactured in insect cells in response to the need for a highly purified, concentrated protein for use in further vaccine development and serological based diagnostic assays.

Tag

sheep Fc

Background

Translation of the positive-stranded viral genomic RNA in infected cells results in the synthesis of a polyprotein precursor of 3411 amino acids, which when proteolytically processed, generates 10 viral proteins. These are (from the amino- to carboxy-terminus of the precursor polyprotein): C; prM/M; E; NS1; NS2A; NS2B; NS3; NS4A; NS4B and NS5. The first three are viral structural proteins that form the virus particle together with the RNA molecule, namely capsid (C, 12–14 kDa), membrane (M of 8 kDa, its precursor prM of 18–22 kDa), and envelope (E, 52–54 kDa). These are encoded in the first quarter of the genome. The remainder of the genome encodes the non-structural proteins (NS), numbered from 1 to 5 (NS1 to NS5) in accordance with the order of synthesis.

E protein is required for receptor binding and viral attachment, fusion, penetration, hemagglutination, host range and cell tropism. It also has an important role in immunological anti-virus response, eliciting neutralizing antibodies and inducing protective response. Native E protein forms homodimers and it undergoes conformational rearrangement into a fusogenic homotrimer after entering cells by receptor-mediated endocytosis. This conformational change occurs in the lower pH environment of the endosome where viral lipid envelope fusion with endosomal membrane, releases the nucleocapsids into the cells cytoplasm. Each E protein

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

monomer has a molecular mass of 50-55 kDa and has three distinct domains: domain I, II and III. Domain III is the immunoglobulin-like receptor binding domain and is recognized by virus-neutralizing antibodies, making it a target for diagnostic assays. Yellow fever continues to be a public health concern in many countries of Africa and the Americas. It is estimated that 200 000 cases and 30 000 deaths are attributable to yellow fever annually.

Formulation

Presented in Dulbecco's phosphate buffered saline (DPBS) pH 7.4.

Notes

This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.

Type

Recombinant

ClassID 1

Infectious Disease

GENE INFORMATION**Synonyms**

Yellow Fever Virus Envelope

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