

## Zika virus (ZIKV) (strain Zika SPH2015) E/Envelope protein (His)

### General Information

Protein Construction:	A DNA sequence encoding the Zika virus (strain Zika SPH2015) E / Envelope (ALU33341.1) (Ile291-Gly694) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Ile 291
Species:	ZIKV
Expression Host:	Baculovirus Insect Cells
Accession:	ALU33341.1
Molecular Weight:	45.5 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
Reconstituted with sterile deionized water to 0.15 mg/mL. Reconstitution conditions may vary depending on the lot.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Envelope of Zika virus is responsible for receptor binding and membrane. Analysis of the envelope protein of Zika, from Brazilian Zika SPH215 (KU321639), indicates predicted B and T cell epitopes in peptides that are consistent with those reported for dengue, YFYF and Japanese encephalitis. The envelope Domain II B cell epitope, to which much dengue non-neutralizing cross-reaction is attributed, is also conserved also in Zika virus, consistent with prior field observations of cross-reactivity with dengue and YF. Domain III of the Zika envelope protein, likely the

main specific neutralizing domain, is distinct from recent Brazilian dengue isolates and a recent Peruvian YF isolate (GQ379163), 76% of possible major histocompatibility complex class (MHC) I and MHC II binding peptides and potential B cell linear epitopes are unique to Zika virus.

### Reference

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