CREATIVE BIOMART®
Diagnostic Proteins

Recombinant Tick-Borne Encephalitis Virus Envelope Protein, mFc-tagged

Product Information

Cat#
TIC-586
Product Name
Recombinant Tick-Borne Encephalitis Virus Envelope Protein, mFc-tagged
Description
Recombinant TBEV Envelope protein (amino acids 267-675) was C-terminally tagged using a 15 amino acid glycine-serine linker and a mouse IgG2a Fc-tag.
Type
Recombinant
Gene
Envelope
Species
Tick-Borne Encephalitis Virus
Source
HEK293
Synonyms
Tick-Borne Encephalitis Virus Envelope
Formulation
DPBS pH 7.4, contains traces of CHAPS
Concentration
0.1 mg/mL
Purity
Greater than 90% purity by SDS-PAGE

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Storage

Short Term Storage: +2 centigrade to +8 centigrade
Long Term Storage: -80 centigrade

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.

Tags

C-terminal Mouse IgG2a Fc

Freezing

Can be frozen, but avoid multiple freeze/thaw cycles.

Sequence Strain

Neudoerfl

Background

Tick-borne encephalitis (TBEV) is a human viral infectious disease involving the central nervous system with an increasing number of cases being reported world-wide. TBEV virions are spherical enveloped particles with an envelope comprising two proteins; the envelope (E) protein, which is organized into dimers and a smaller membrane (M) protein. Inside the envelope is the nucleocapsid, which consists of multiple copies of the capsid (C) protein and a single copy of the viral genome. The virus genome is an ~11kbp positive-strand RNA (RNA) which encodes three structural proteins (C, prM, E), and seven nonstructural (NS) proteins. The viral proteins are encoded in a single open reading frame that is co- and post-translationally cleaved by viral and host proteases (Knipe & Howley, 2013).
The E glycoprotein is the major component of the mature TBEV particle and consists of four domains. Domain II contains the only glycosylation site of the mature virus (Asn154), which has a role in egress from mammalian cells, as well as neurovirulence. At its tip, domain II also contains a region that is responsible for the fusion of the viral and host membranes in the final

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stages of TBEV entry. Domain III has been proposed to function in the binding to host receptors, but no residues directly responsible for entry have been identified. Antibodies against domain III have been found in the sera of patients and laboratory animals after infection or vaccination.
Protein E is responsible for the induction of a protective immune response, making it a good candidate for vaccine development and diagnostic use.

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