Leinco Technologies, Inc.
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Anti-Bundibugyo Ebolavirus, GP

Recombinant Monoclonal Antibody

Product Information

Product No.: E170
Clone: BDBV-335
Isotype: Human IgG1κ
Storage: 2° to 8°C

Product Description

Specificity:
BDBV-335 activity is directed against the glycan cap of Bundibugyo ebolavirus (BDBV) glycoprotein (GP) between residues 274 and 282. BDBV-335 binds equally well to both native GP and a recombinant GP secreted to the extracellular space during infection (sGP).

Antigen Distribution:
Ebola virus glycoprotein is a surface protein expressed on the virus envelope.

Background:
Ebola virus is a member of the Filoviridae family that causes severe disease in humans with a mortality rate of 25-90%[1]. Three Ebola species are responsible for lethal outbreaks: Zaire ebolavirus (EBOV), Bundibugyo ebolavirus (BDBV), and Sudan ebolavirus (SUDV).

The Ebola virus envelope contains a single surface glycoprotein (GP) which is responsible for viral attachment to the host cell, endosomal entry, and membrane fusion[1]. GP is composed of two subunits, GP1 and GP2. GP1 has a heavily glycosylated mucin-like domain and a glycan cap. GP2 contains the internal fusion loop, transmembrane domain, and stalk. GP is the major target of neutralizing monoclonal antibody (mAb) and vaccine design against Ebola virus[1,2,3].

BDBV-335 is a glycan cap mAb isolated from B cells of a survivor of the 2007 Uganda BDBV outbreak[3]. Peripheral blood mononuclear cells from the survivor were transformed with Epstein-Barr virus, CpG, and additional supplements. Subsequently, cell supernatants were screened by ELISA for binding to GPs from BDBV, EBOV, or MARV filoviruses. Positive cells were fused with HMMA2.5 myeloma cells by electrofusion and cloned by single-cell fluorescence-activated cell sorting.

According to EM structural analysis, BDBV-335 binds further down the glycan cap than BDBV-41, a mAb in the same binding group[3]. BDBV-335 targets a region in GP1 that is centered on the glycan cap between residues 274 and 282.

Known Reactivity Species:
Ebola

Format:
Purified No Carrier Protein

Immunogen:
Sequenced from PBMCs from a donor who had recovered from a naturally-occurring BDBV infection.

Formulation
This recombinant monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥90% monomer by analytical SEC and SDS-Page

Storage and Stability
This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C

Avoid Repeated Freeze-Thaw Cycles

Product Preparation
This antibody is purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications
Applications Reported in Literature:
B,
EM,
ELISA,
FA,
N

Country of Origin
USA

References
1) Gilchuk P, Kuzmina N, Ilinykh PA, et al. Immunity. 49(2):363-374.e10. 2018.
2) Bornholdt ZA, Ndungo E, Fusco ML, et al. mBio. 7(1):e02154-15. 2016.
3) Flyak AI, Shen X, Murin CD, et al. Cell. 164(3):392-405. 2016.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.