

Anti-Bundibugyo Ebolavirus, GP

Recombinant Monoclonal Antibody

Product Information

Product No.: E171

Clone: BDBV-357

Isotype: Human IgG1 λ

Storage: 2° to 8°C

Product Description

Specificity:

BDBV-357 activity is directed against Bundibugyo ebolavirus (BDBV) glycoprotein (GP).

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 fusion¹. 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-357 is a GP mAb isolated from B cells of a survivor of the 2007 Uganda BDBV outbreak³. 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 HMM2.5 myeloma cells by electrofusion and cloned by single-cell fluorescence-activated cell sorting.

BDBV-357 binds with strong affinity to both native BDBV GP and a recombinant GP secreted to the extracellular space during infection (sGP)³. sGP and GP share 295 residues at the N-terminus. Additionally, BDBV-357 binds to EBOV GP with intermediate affinity. BDBV-357 does not neutralize BDBV.

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:

ELISA,

Country of Origin

USA

References

- 1) Gilchuk P, Kuzmina N, Illykh 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.