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# 12-8196: Anti-Bundibugyo Ebolavirus, GP (Clone BDBV-317)-Purified No Carrier Protein

**Clonality :** Monoclonal
**Clone Name :** BDBV-317
**Isotype :** Human IgG1k

## Description

Specificity: BDBV- 317 activity is directed against an epitope near the base of Bundibugyo ebolavirus (BDBV) glycoprotein (GP). BDBV-317 binds to the canonical heptad repeat 2 (HR2) domain (PDBID 5JQ3) near the membrane-proximal external region (MPER) of the GP, close to the viral membrane.
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 virus1,2,3. BDBV-317 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 HMMA2.5 myeloma cells by electrofusion and cloned by single-cell fluorescence-activated cell sorting. BDBV-317 binds to and neutralizes BDBV as well as EBOV heterologous Mayinga (historical) and Makona-Gueckedou-C07 (contemporary) strains3,4. BDBV-317 also neutralizes two strains of Reston virus and recognizes, but does not neutralize, SUDV4. BDBV-317 can also recognize a linear synthesized peptide spanning GP amino acids 620-635, suggesting a relatively linear epitope in vivo4. A single critical contact residue in GP2 (K633) is located in a region that spans the C-terminal part of HR2 and the N-terminal part of MPER4. Three BDBV-317 molecules bind simultaneously to the GP trimer4. BDBV-317 provides complete protection from death against EBOV (Mayinga strain) in mouse and partial protection in guinea pig4.

## Product Info

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| **Amount :** | 1 mg / 250µg |
| **Purification :** | Purity: >=90% monomer by analytical SEC and SDS-Page<br>Preparation: Recombinant antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are 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. |
| **Content :** | Concentration: >=1.0 mg/ml<br>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. |
| **Storage condition :** | 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. |

## Application Note

B, ELISA, EM, FA, N