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12-8194: Anti-Bundibugyo Ebolavirus, GP1 (Clone BDBV-43)-Purified No Carrier Protein

Clonality : Monoclonal
Clone Name : BDBV-43
Isotype : Human IgG1k

Description

Specificity: BDBV-43 activity is directed against the glycan cap of the GP1 subunit of Bundibugyo ebolavirus (BDBV), Zaire ebolavirus (EBOV), and Sudan ebolavirus (SUDV) glycoprotein.
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. mAbs targeting GP1 are capable of neutralizing all known filovirus GPs2,3. A pan-Ebola virus mAb is highly desirable to protect against future outbreaks. BDBV-43 is a glycan cap 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. In binding and neutralization assays, BDBV-43 binds to and neutralizes BDBV, EBOV and SUDV. BDBV-43 also binds BDBV-secreted GP (sGP)4. BDBV-43 is defined as a neutralizing antibody because it has a half-maximal inhibitory concentration value of < 10µg /mL3. Epitope mapping of GP1 shows that L273 is a critical binding residue for BDBV-433,4. Cryo-EM structures show that the BDBV-43 CDRH2 loop primarily binds along the ?17 strand from residues 268-280, with the majority of contacts around W2754.

Product Info

Amount :	1 mg / 250µg
Purification :	Purity: >=90% monomer by analytical SEC and SDS-Page 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 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, EM, ELISA, FA, N