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12-8207: Anti-Ebolavirus, GP (Clone EBOV-548)-Purified No Carrier Protein

Clonality : Monoclonal
Clone Name : EBOV-548
Isotype : Human IgG1

Description

Specificity: EBOV-548 activity is directed against the glycan cap of the GP1 subunit of Zaire ebolavirus (EBOV) and Bundibugyo ebolavirus (BDBV) 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 virus1,2,3,4. EBOV-548 is a pan-EBOV-neutralizing mAb isolated from a survivor of the EBOV 2013-2016 outbreak2. Hybridomas were generated from human peripheral blood mononuclear cells. EBOV GP-reactive memory B cells were labeled with recombinant EBOV GP protein, purified by FACS, bulk expanded on NIH 3T3 cells, bulk fused with MFP-2 myeloma cells, and screened for neutralizing activity against live and/or recombinant EBOV, BDBV, and SUDV GP. EBOV-548 reacts to all three species GPs and neutralizes EBOV and BDBV. EBOV-548 recognizes intact but not cleaved GP. EBOV-548 was identified in a study designed to develop a cooperative two-antibody cocktail with EBOV-5202,4. When paired, EBOV-548 and EBOV-520 have synergistic activity for GP binding and virus neutralization2. This is achieved mechanically. EBOV-548 binds to the glycan cap in a manner that destabilizes the GP trimer, displacing the ?17-?18 loop. As a result, the glycan cap is pulled back, facilitating EBOV-520 binding and enhancing neutralization. The cooperative effect is dependent on EBOV-548 concentration. When administered together in vivo, EBOV-548 potentiates protection by EBOV-520 against SUDV, with 50% of mice surviving treatment, while only 10% survive with EBOV-520 alone.

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, ELISA, EM, FA, N