

## Anti-Glycoprotein [MR78] Standard Size Ab02824-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This reformatted human antibody was made using the variable domain sequences of the original Human Fab format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Human IgG1, Fc Silent™, Kappa

**Clone Number:** MR78

**Alternative Name(s) of Target:** GP; GP1; Envelope glycoprotein; GP1 2; Virion spike glycoprotein; Filovirus

**UniProt Accession Number of Target Protein:** P35253

**Published Application(s):** neutralize, ELISA

**Published Species Reactivity:** Ebola Virus, Filovirus, Marburg Virus

**Immunogen:** The original antibody was generated from peripheral blood mononuclear cells of a donor after screening them for Marburg virus (MARV) antigen-specific antibody-secreting cell lines using ELISAs. Cells from wells with supernatants reacting in a MARV antigen ELISA were fused with HMM2.5 myeloma cells using an established electrofusion technique.

**Specificity:** This antibody recognizes a GP1 epitope conserved across the filovirus family, which likely represents the binding site of their NPC1 receptor. This antibody also blocks binding of the NPC1 domain C to MARV GP. This antibody was also capable of reacting with Ebola virus (EBOV) GP1 that lacked the glycan cap and mucin-like domain (PMID: 25723164).

**Application Notes:** The binding specificity of the hybridoma supernatants for MARV glycoprotein was done using ELISA. ELISA was also performed to check whether the original Fab version of this antibody cross reacted with Ebola virus GP receptor-binding site. This antibody was also found to neutralize vesicular stomatitis virus/Marburg glycoprotein recombinant protein (VSV/GP-Uganda) and MARV-Uganda in a neutralization assay (PMID: 25723164). The crystal structure of this antibody in combination with Marburg virus Gp and Ebola virus GP demonstrates that the MR78 antibody recognizes a similar site on both MARV and EBOV. The epitope is a highly conserved hydrophobic trough revealed at the top of the EBOV GP1 core, after removal of the glycan cap by proteolytic cleavage in the endosome (PMID: 25723165). This antibody was recombinantly produced in tobacco (*N. benthamiana*) and was used in the in vivo therapeutic treatment of Marburg and Ravn virus infection in nonhuman primates like guinea pigs. This antibody was reported to provide 100% protection and virus could not be detected in plasma sampled 7 dpi in animals

treated with MR78-N (PMID: 28381540). MR78 fails to neutralize VSVs bearing GPCL derived from any species other than MARV (PMID: 26908579).

**Antibody First Published in:** Flyak et al. Mechanism of human antibody-mediated neutralization of Marburg virus. Cell. 2015 Feb 26;160(5):893-903. [PMID:25723164](#)

**Note on publication:**

## Product Form

**Size:** 200 µg Purified antibody.

**Purification:** Protein A affinity purified

**Supplied In:** PBS with 0.02% Proclin 300.

**Storage Recommendation:** Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.