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Marburg Virus, Glycoprotein (GP1) Antibody

Purified No Carrier Protein

Recombinant Monoclonal Antibody

Product Information

Product No.:	M233
Clone:	MARV-72
Isotype:	Human IgG1
Storage:	Sterile 2-8°C

Product Description

Specificity:
Clone MARV-72 is a human IgG monoclonal antibody that specifically targets the top portion from the head domain of glycoprotein 1 (GP1) of the Marburg Virus (MARV).

Antigen Distribution:
MARV initially infects monocytes, macrophages, and dendritic cells, which serve as the initial targets of infection and contribute to the spread of the virus throughout the body.

Background:
MARV is a highly pathogenic virus that belongs to the Filoviridae family, along with Ebola virus[1]. It can cause severe hemorrhagic fever in humans, with mortality rates as high as 90%[2]. MARV is transmitted to humans through contact with infected animals, such as fruit bats or monkeys, or direct contact with the bodily fluids of infected individuals[3]. There are currently no approved vaccines or specific treatments for MARV infection. Research has focused on understanding the virus's replication, immune evasion mechanisms, and developing potential vaccines and therapeutics. Animal models, such as nonhuman primates and guinea pigs, have been used to study the virus and evaluate potential interventions.

Studies on MARV's envelope GP have shown that the virus can evade antibody-mediated immune pressure through mutations in the furin-cleavage site and deletion of the mucin-like region, demonstrating the GP's structural flexibility and variability[4]. These findings contribute to our understanding of MARV's life cycle, immune evasion mechanisms, and potential therapeutic approaches.

Clone MARV-72 (also known as MR72) is recognized for its wide-ranging reactivity against filoviruses, such as Ebola and Marburg viruses. It is noteworthy for being one of the rare antibodies capable of attaching to GPs of both types of viruses, making it highly sought after for therapeutic applications. MARV-72 has demonstrated its efficacy in neutralizing these viruses and offering protection in non-human primate models[5].

Known Reactivity Species:
Marburg Virus, Ebola

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Sequenced from PBMCs from a donor who had recovered from a naturally-occurring Marburg virus infection.

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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
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.

Other Applications Reported in Literature:

ELISA,
EM,
N

Country of Origin
USA

References
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3. Bausch DG, Borchert M, Grein T, et al. Emerg Infect Dis. 2003;9(12):1531-1537.
4. Kajihara M, Nakayama E, Marzi A, Igarashi M, Feldmann H, Takada A. J Gen Virol.2013;94(Pt 4):876-883.
5. Wirchnianski AS, Nyakatura EK, Herbert AS, et al. PLOS Pathogens. 2024;20(4):e1012134.
6. Protective mAbs and Cross-Reactive mAbs Raised by Immunization with Engineered Marburg Virus GPs | PLOS Pathogens. Accessed July 18, 2024. https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1005016
7. Flyak AI, Ilinykh PA, et al. Cell. 2015;160(5):893-903.

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