ALPHA DIAGNOSTIC INTERNATIONAL

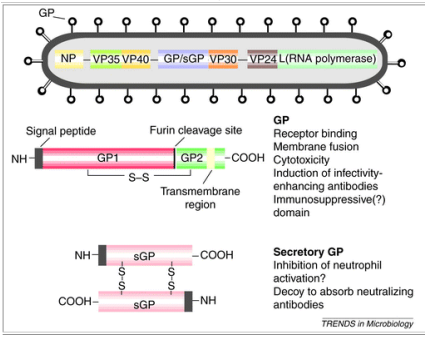
Product Specification Sheet

Zaire Ebola virus Monoclonal Antibody

□ **Cat #** EVZ14-M Mouse Monoclonal Anti-Zaire Ebola virus IgG (mixture of EVZ12-M and EVZ13-M), aff pure **SIZE**:100 ul

Ebola virus (EBOV, formerly Zaire ebola virus**)** causes severe disease in humans and in nonhuman primates in the form of viral hemorrhagic fever.. Zaire ebolavirus is a virological taxon included in the genus Ebolavirus, family Filoviridae, order Mononegavirales. The species has a single virus member, Ebola virus (EBOV). **Ebolavirus species Zaire** (ZEBOV) causes highly lethal hemorrhagic fever, resulting in the death of **90%** of patients within days. Most information on immune responses to ZEBOV comes from in vitro studies and animal models. Ebola Zaire attacks every organ and tissue in the human body except skeletal muscle and bone. Ebola is classified as a **Level 4** pathogen (higher than AIDS) with a 2 to 21 day (7 to 14 days average) incubation period. There are currently four known strains of Ebola: **Zaire, Sudan, Reston and Tai**. All cause illness in sub-human primates. Only Ebola Reston does not cause illness in humans. The mortality rate of Ebola victims is between 60% and 90%; with Ebola Sudan at 60% and Ebola Zaire at 90%.

The virions are tubular in general form but variable in overall shape and may



appear as the classic shepherd's crook or eyebolt. Ebola virions consist of 7 structural proteins. At the center is the helical **ribonucleocapsid,** which consists of the genomic RNA wrapped around a polymer of **nucleoproteins (NP**). Associated with the ribonucleoprotein is the RNA-dependent **RNA polymerase (L)** with the **polymerase cofactor (VP35)** and a **transcription activator (VP30).** The ribonucleoprotein is embedded in a matrix, formed by the major (VP40) and minor (VP24) matrix proteins. They are surrounded by a **lipid membrane** derived from the host cell membrane. The membrane anchors a glycoprotein (GP1,2) that projects 7 to 10 nm spikes away from its surface. While nearly identical to **Marburg virions** in structure, ebola virions are antigenically distinct.

The most common diagnostic methods are RT-PCR in conjunction with antigen-capture ELISA which can be performed in field or mobile hospitals and laboratories. There are currently no FDA-approved vaccines for the prevention of EVD. The most promising ones are DNA vaccines or are based on adenoviruses, vesicular **stomatitis Indiana virus (VSIV) or filovirus-like particles (VLPs**) as all of these candidates could protect nonhuman primates from Ebola virus-induced disease. DNA vaccines, adenovirus-based vaccines, and VSIV-based vaccines have entered clinical trials.

Source of Antigen and Antibodies

Antigen	Formalin-inactivated purified Ebola virus
Ab Host/type	Mouse monoclonal IgG2a (EVZ12-M and EVZ13-M). supplied with 0.05% Sodium azide as preservative
2-Ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Isotype Controls for mouse IgG2a

20102-102 Mouse IgG2a isotype control, purified
20102-102-B Mouse IgG2a-Biotin conjugate (isotype control)
20102-102-F Mouse IgG2a-FITC conjugate (isotype control)
20102-102-FP Mouse IgG2a-FITC-PE conjugate
20102-102-HP Mouse IgG2a-HRP conjugate (isotype control)
20102-102-PC5 Mouse IgG2a-PE-Cy5 conjugate (isotype control)
20102-102-PE Mouse IgG2a-PE conjugate (isotype control)

Form & Storage of Antibodies/Peptide Control

Antibody

□ 100 ul □ solution □ lyophilized powder
Buffer: PBS+0.05% azide
Reconstitute powder 100 ul of PBS.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20ºC or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20ºC or below.
Shipping: 4ºC for solutions and room temp for powder.

Recommended Usage

Western Blotting: Users must optimize antibody dilution depending upon the nature of samples and other technical conditions. Suggested dilution of 1:500-1:2000 usign 20-100 ng protein/lane.

ELISA (1:10-50K; using 50-100 ng antigen/well).

Histochemistry & Immunofluorescence: not tested.

Specificity & Cross-reactivity: Antibodies reacts to the Zaire ebola virus proteins 110-120 kDa under non-reducing conditions and ~30 kDa protein band under reducing conditions. Antibody Cross-reactivity with ebola viruses of other serotypes (Sudan, Bundibugyo, Reston etc) has not been established.

References: Thomas W (2010) Archives of Virology 155 (12): 2083–103. Taylor D (2010) BMC Evolutionary Biology 10: 193. Feldmann H (2005) . A. Virus Taxonomy—Eighth Report of the International Committee on Taxonomy of Viruses. 645–653. Cote M (2011) Nature 477 (7364): 344–8. Flemming A (2011) Nat Rev Drug Discov 10 (10): 731.

*This product is for In vitro research use only.

Related material available from ADI

EVGP11-A Anti-Ebola virus glycoprotein (Recombinant) IgG, purified
EVGP11-C Recombinant (sf9) Zaire-Ebola virus glycoprotein protein control WB
EVGP15-A Anti-Zaire Ebola virus glycoprotein (GP, 1-676aa/DNA vaccine) IgG,
EVGP16-A Anti-Zaire Ebola virus glycoprotein (GP 1-652aa/DNA vaccine) IgG,
EVGP16-R-10Recombinant (sf9) Sudan-Ebola virus glycoprotein (minus transmembrane domain, his-tag, 68 kda), purified
EVGP17-R-10Recombinant (sf9) Zaire-Ebola virus glycoprotein (minus transmembrane domain, his-tag, 68 kda), purified
EVNP12-M Monoclonal Anti-Zaire-Ebola virus IgG, aff pure
EVNP13-A Anti-Zaire-Ebola virus nucleoprotein (EBOV NP, 1-739/DNA vaccine) IgG,
EVP401-A Anti-Zaire-Ebola virus VP40 peptide (EBOV VP40) IgG, aff pure
EVP401-C Recombinant Zaire-Ebola virus VP40 protein control for Western
EVP405-R-10 Recombinant (E.coli) Zaire-Ebola virus VP40
AE-320520-1Human Anti-Ebola virus Nucleoprotein (NP) IgG ELISA Kit,
AE-320530-1Human Anti-Ebola virus Nucleoprotein (NP) IgM ELISA Kit
AE-320620-1Human Anti-Zaire-Ebola virus glycoprotein (GP) IgG ELISA
AE-320720-1Human Anti-Zaire-Ebola virus VP40 IgG ELISA Kit,
AE-320730-1Human Anti-Zaire-Ebola virus VP40 IgM ELISA Kit,
AE-320800-48 Human Zaire-Ebola Virus antigen ELISA Kit, 48 tests,
AE-320800-96 Human Zaire-Ebola Virus antigen ELISA Kit, 96 tests,

EVZ14-M 140901A

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