

Product Specification Sheet

Zaire Ebola virus VP40 Monoclonal Antibody

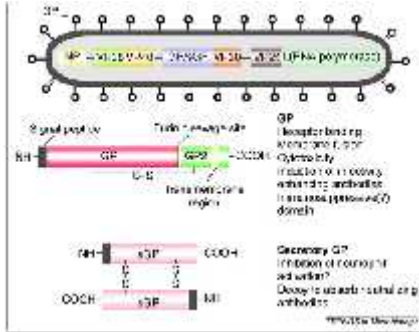
– Cat # EVP407-M

Monoclonal Anti-Zaire-Ebola virus VP40 (ZEBOV VP40) IgG, 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 five known strains of Ebola: **Bundibugyo, Zaire, Sudan, Reston and Tai 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	VP40 hybridoma clones
Ab Host/type	Mouse monoclonal IgG2a supplied in n PBS, PH 7.3, 0.1% BSA with 0.1% Sodium azide as preservative. Aff pure.
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)

Antibody

100 ul solution lyophilized powder

Buffer: PBS+0.05% azide

Reconstitute powder 100 ul of water.

Storage

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

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

Stability: 6-12 months at –20°C or below.

Shipping: 4°C 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 1:100.

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

Histochemistry & Immunofluorescence: not tested.

Specificity & Cross reactivity: This antibody reacts to the VP40 of Zaire Ebola virus. Zaire Ebola VP40 protein is significant conserved in various Ebola serotypes: Bundibugyo (84%), Tai Forest (82%), Sudan (75%), Reston (74%). It is only 34% conserved in Marburg Raven VP40. Antibodies and recombinant VP40 proteins from various Ebola and Marburg viruses are available for control studies.

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

EVP404-A	Goat Anti-Zaire-Ebola virus (Mayinga) VP40 (ZEBOV VP40) IgG, purified
EVP406-R-10	Recombinant (E.coli) Zaire Ebola virus VP40 (GIN/2014/Kissidougou-C15, 1-326 aa, his-MBP tag, >95%)
EVP406-BTN	Biotin-Recombinant (E.coli) Zaire Ebola virus VP40 (GIN/2014/K
EVZ12-M	Mouse Monoclonal Anti-Zaire Ebola virus (killed) IgG, aff pure
EVZ13-M	Mouse Monoclonal Anti-Zaire Ebola virus (Killed) IgG, aff pure
EVZ14-M	Mouse Monoclonal Anti-Zaire Ebola virus IgG (mixture of EVZ12-M and EVZ13-M)
SVP407-R-10	Recombinant (E.coli) Sudan VP40 (Uganda,1-326aa, his tag, >95%)
SVP408-R-10	Rec. (E.coli) Sudan VP40 (Uganda,1-326aa, his-MBP tag at NT, >95%)
AE-320720-1	Human Anti-Zaire-Ebola virus VP40 IgG ELISA Kit,
AE-320730-1	Human 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,

EVP407-M 141217P