ALPHA DIAGNOSTIC INTERNATIONAL

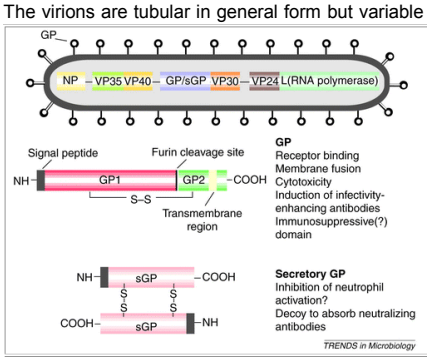
Product Specification Sheet

Recombinant (HEK) Zaire Ebola virus glycoprotein RBD domain (GIN/2014/Kissidougou-C15, 1-308aa, his-tag, >95%, low endotoxin)

Cat # EVRB11-R-10	Recombinant (HEK) Zaire Ebola virus RBD domain(GIN/2014/Kissidougou-C15, 1-308aa, his-tag)	**SIZE**: 10 ug
Cat # EVRB11-BTN	Biotin-Recombinant (HEK) Zaire Ebola virus RBD domain(GIN/2014/Kissidougou-C15, 1-308aa, his-tag)	**SIZE**: 100 ul

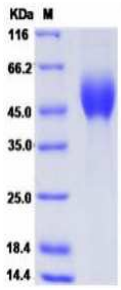
Ebola virus (EBOV, formerly Zaire ebolavirus**)** causes severe disease in humans and in nonhuman primates in the form of viral hemorrhagic fever.. Zaire ebolavirus is a virological taxon included in the genus Ebolavirus, family Filoviridae, order Mononegavirales. The species has a single virus member, 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



Recombinant Zaire Ebola virus glycoprotein cat#EVRB11-R-10 (strain H.sapiens-wt/GIN/2014/Kissidougou-C15, RBD 1-308aa, protein accession #AHX24649.1) was expressed in HEK cells as **his-tag** CT fusion protein (RBD, >95%, ~45-55 KDa broad band due to glycosylation). Purified protein is supplied in PBS (pH 7.4) and 2-5% Trehalose as preservative. (see lot sp. Conc. on the vial)

It is suitable for ELISA, Western or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Endotoxin level : < 1.0 EU per µg protein as determined by the LAL method.

Cat#EVRB11-BTN Biotin-conjugate

Purified protein was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC**)** at F/P ratio ~10-20:1. The protein is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide. Reconstitute powder in PBS to prepare stock solution (it is also possible to dissolve the powder to make 1:10 diluted stock).

Suggested conjugate dilutions are 1:1,000-1:3,000 ELISA, 1:5,00-1:2,000 for western; 1:500-1:2000 for IHC/IF.
User must test and optimize the dilution for a given application.

Storage

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

Long-term: at –20C 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: load 20-100 ng/well.

ELISA (50-100 ng antigen/well).

Histochemistry & Immunofluorescence: not tested.

Specificity

Zarie Ebola RBD domain 1-308aa (GIN/2014/Kissidougou-C15) conservation in various strains: Zaire, Mayinga 1976 (100%), Tai Forest (79%), Bundibugyo (78%), Reston (70%), Sudan (67%) GP/ssGP. Protein homology with Lloviu cuevavirus (42%) and Marburg (44%) GPs.

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.

*This product is for In vitro research use only.

Related material available from ADI

http://www.4adi.com/objects/catalog/product/extras/Ebola_Marburg_Vaccines_ELISA_Flr.pdf

EVGP11-A	Anti-Ebola virus glycoprotein (Recombinant) IgG, purified
EVGP11-C	Rec. (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-10	Rec. (sf9) Sudan-Ebola virus glycoprotein (minus transmembrane domain, his-tag, 68 kda), purified
EVGP17-R-10	Recombinant (sf9) Zaire-Ebola virus glycoprotein (minus transmembrane domain, his-tag, 68 kda), purified
EVRB14-BTN	Biotin-Recombinant (HEK) Zaire Ebola virus glycoprotein RBD domain (Mayinga 1976, 1-308 aa, his tag, >95%, low endotoxin)
EVRB11-BTN	Biotin-Recombinant (HEK) Zaire Ebola virus glycoprotein RBD domain (GIN/2014/Kissidougou-C15, 1-308aa, his-tag, >95%, low endotoxin)
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,
EVP401-C	Rec. Zaire-Ebola virus VP40 protein control for Western
EVP405-R-10	Rec. (E.coli) Zaire-Ebola virus VP40
AE-320520-1	Human Anti-Ebola virus Nucleoprotein (NP) IgG ELISA Kit,
AE-320530-1	Human Anti-Ebola virus Nucleoprotein (NP) IgM ELISA Kit
AE-320620-1	Human Anti-Zaire-Ebola virus glycoprotein (GP) IgG ELISA
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,

EVRB11-R-10 141015P

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