

Zaire Ebola Virus Glycoprotein Antigen (EBOV GP) ELISA Kit # AE-320800-48

Alpha Diagnostic Intl Inc. (ADI) EBOV GP antigen ELISA kit is a qualitative sandwich ELISA to detect the presence of EBOV GP in serum or plasma of humans, monkey, dog or other animals. The test is conducted using supplied ready-to-use reagents, controls at room temperature in < 3 hrs. The test produces a visual color (blue/yellow). Presence of EBOV GP can be determined by visual comparisons of the yellow color intensity with the supplied negative and positive controls or results recorded using an ELISA reader at A450nm. The kit uses only 2 ul of serum or plasma and it has a sensitivity of 0.5 ng/ml. The kit can be used in filed setting with only a few commonly available test tubes and pipettes. ADI's Ebola viral antigen kit contains recombinant purified antigen and antibodies. It has NO VIRUS or VIRAL EXTRACTS. The kit is transported in cold packs and stored at 4oC for at least 6-months. There is no clinically FDA-approved diagnostic ELISA kit. This kit is for research use only (RUO).

EBOV GP Antigen ELISA Kit Features	
<p>Interpretation of results</p> <p>Negative: A450 =or < -ve control Positive: A450=> +ve control</p> <p>Sensitivity =0.5 ng/ml</p>	<ul style="list-style-type: none"> Highly specific recombinant purified anti-EBOV GP IgG pre-coated, stabilized, ready-to-use 48/96-well (8 well strips allow the use 1 or more strips). Convenient EBOV antigen Negative and Positive calibrators supplied in a buffer. 100 ul samples (serum or plasma diluted 1:100) 4 incubations (60+60+30+15 min) at room temp (25-28oC) Sensitivity 0.5 ng/ml. Storage (2-4oC) & Stability ~6-12 months <p>Contains all necessary reagents. For in vitro research use only.</p>

Assay Procedure: Allow all reagents to reach room temperature. Prepare 1X solution from stock.

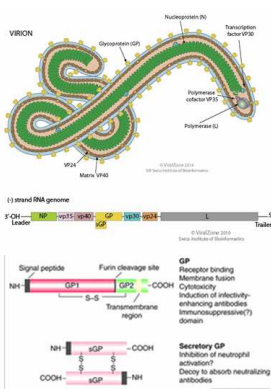
- Step 1.** Pipet 100 ul each of the supplied, pre-diluted –ve and +ve calibrators and 100 ul of diluted samples (serum or plasma diluted 1:100 in supplied buffer). Mix gently by manually shaking for 510 seconds and incubate at room temp (RT) for 60 min.
- Step 2.** Aspirate and wash 3X with the supplied wash buffer. Add 100 ul of detection antibody #1. Mix gently, and incubate at RT for 60 min.
- Step 3.** Aspirate and wash 3X with the wash buffer. Add 100 ul of detection antibody #2. Mix gently, and incubate at room temp for 30 min.
- Step 4.** Aspirate and wash 3X with the wash buffer. Add 100 ul of Enzyme substrate. Mix gently, and incubate at room temp for 15 min. Blue color develops in positive calibrators and positive samples.
- Step 4.** Pipet 100 ul of stop solution into each well and mix gently (blue color turns yellow). Compare results visually or measure absorbance at 450 nm. Results are obtained by calculating by comparing with the supplied –ve and positive controls.

Specificity of the antibodies

Zaire Ebola GP protein is significantly conserved in various serotypes: Bundibugyo (65%), Tai Forest D'Ivoire (64%), Sudan (54%), Reston (57%). The monoclonal antibodies used in the kits are specific to Zaire Ebola glycoprotein. They do not react with Sudan Ebola Virus GP or Marburg Virus GP.

General Information

Ebola virus (EBOV) causes severe disease in humans and in nonhuman primates in the form of viral hemorrhagic fever. The family Filoviridae (members are called Filovirus or filovirids; filum is derived from latin meaning filamentous) is a group of several related viruses that form filamentous infectious viral particles (virions) and encode their genome in the form of single-stranded negative-sense RNA. The two members of the family that are commonly known are Ebola virus and Marburg virus. The family Filoviridae represents significant health risks as emerging infectious diseases as well as potentially engineered biotreats. 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 of them cause illness in sub-human primates. The mortality rate of Ebola victims is between 60% and 90%.



The virions are tubular in general form but variable in overall shape and may appear as the classic shepherd's crook or eyebolt, as a U or a 6, or coiled, circular, or branched. Ebolavirions consist of seven 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. These particles 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. Being acellular, viruses do not grow through cell division; instead, they use the machinery and metabolism of a host cell to produce multiple copies of themselves, then assembling in the cell.

Ebola virus disease (EVD) is clinically indistinguishable from **Marburg virus disease (MVD)** and can be easily be confused with many other diseases prevalent in Equatorial Africa. The most common **diagnostic methods** are therefore RT-PCR in conjunction with antigen-capture ELISA which can be performed in field or mobile hospitals and laboratories. There are currently **no Food and Drug Administration-approved vaccines** for the prevention of EVD. The most promising ones are DNA vaccines or are based on adenoviruses, vesicular stomatitis Indiana virus (VSV) or filovirus-like particles (VLPs) as all of these candidates could protect nonhuman primates from Ebola virus-induced disease. Most of the vaccines target the virus GP, one of the major antigenic proteins of the Ebola virus.

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Ebola & Marburg Virus Vaccine ELISA Kits, Recombinant Proteins, and Antibodies

Alpha Diagnostic Intl Inc. (ADI), a biotechnology company located in San Antonio, Texas, USA, has been researching and developing many prototype vaccines and diagnostic tests to determine the efficacy of Ebola candidate vaccines in animals and humans. We have cloned and expressed most Ebola viral proteins (GP, NP, and VP40) from Ebola/Marburg viruses, generated antibodies, and developed ELISA kits for the detection and measurement of Ebola related antigens and antibodies. Given the urgency of Ebola virus disease (EVD), the company is releasing many critical recombinant proteins, antibodies, and ELISA kits to further research into the development of Ebola vaccines and testing their efficacy. *ADI's Ebola kits contain all animal derived antibodies made to purified recombinant proteins. ADI antibodies and kits have no Ebola virus or viral derived proteins and are completely safe to use and transport. The kits have been tested and validated with therapeutic antibodies, Zmapp. Additional ELISA kits and antibodies are available for Ebola vaccine vectors (Adenovirus, VSV, and Rabies virus proteins) to determine efficacy of Ebola vaccines.*

Zaire-Ebola vaccine Related ELISA kits

(See Details at the website) http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2762

Virus	ELISA Kit Description	Species	IgG Specific Cat#	IgM Specific Cat#
Zaire Ebola	Zaire-Ebola Virus Nucleoprotein (EBOV NP) antibody ELISA Kits**	Mouse	AE-320500-1	AE-320510-1
		Human	AE-320520-1	AE-320530-1
		Monkey/Chimp	AE-320550-1	AE-320560-1
	Zaire-Ebola Virus Glycoprotein (EBOV GP) antibody ELISA Kits**	Mouse	AE-320600-1	AE-320610-1
		Human	AE-320620-1	AE-320630-1
		Monkey/Chimp	AE-320650-1	AE-320660-1
		Dog	AE-322670-1	
	Zaire-Ebola Virus Glycoprotein (EBOV VP40) antibody ELISA Kits**	Mouse	AE-320700-1	AE-320710-1
		Human	AE-320720-1	AE-320730-1
		Monkey/Chimp	AE-320750-1	AE-320760-1
Zaire-Ebola Virus Antigen ELISA kit, Qualitative (detect virus in human samples)		AE-320800-48 (48 tests) AE-320800-48 (96 tests)		
Sudan Ebola	Sudan-Ebola Virus Glycoprotein (EBOV GP) antibody ELISA Kits**	Mouse	AE-321600-1	AE-321610-1
		Human	AE-321620-1	AE-321630-1
		Monkey/Chimp	AE-321650-1	AE-321660-1
Marburg	Marburg Virus Glycoprotein (MARV GP) antibody ELISA Kits**	Mouse	AE-322600-1	AE-322610-1
		Human	AE-322620-1	AE-322630-1
		Monkey/Chimp	AE-322650-1	AE-322660-1
Zmapp	ZMAPP ELISA (Humanized Anti-Ebola GP IgGs, produced in tobacco plants) Activity ELISA kit (for mouse, human, monkey etc) (for determining the activity of Zmapp and its measurement in serum or plasma) # AE-320850-1, 96 tests Anti-ZMAPP antibody ELISA (Anti-drug antibody/ADA ELISA for mouse, human, monkey etc), 96 tests, Quantitative # AE-320860-1			

****Notes:** The above ELISA kits contain recombinant protein made and purified from E. coli or sf9 host cell. There is no Ebola virus or antibodies in the kit. The kit transport or usage does not pose any safety tissue. However, if Ebola positive samples are tested using the kit then they must be used in appropriate BSL4 labs

Adenovirus, Rabies and VSV are being used to express Ebola genes (vaccines). ADI has many antibodies, recombinant proteins and ELISA kits for these vectors.

<http://4adi.com/commerce/ccc2744-adenovirus-based-vaccines-and-elisa-kits-adenovirus-vaccines--elisa-kits0d0a.htm>

<http://4adi.com/commerce/ccc2726-rabies-vaccine-elisa-and-reagents-rabies-vaccine--elisa-reagents.htm>

<http://4adi.com/commerce/ccc2745-vaccinia-virus-based-vaccines-and-elisa-kits-vaccinia-virus--vaccines--elisa-kits0d0a.htm>

