ALPHA DIAGNOSTIC INTERNATIONAL

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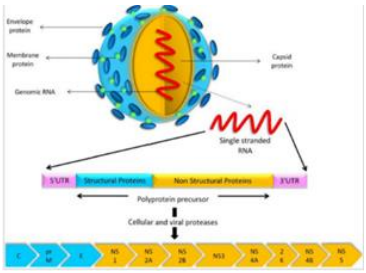
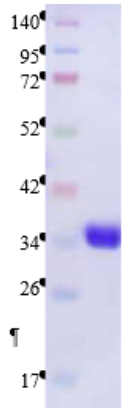
Product Data Sheet

☐ Cat# ZENV15-R-10	Recombinant (E. coli) Zika Virus Envelop Protein (African, full length, >95%, his tag)	Size:10 ug
☐ Cat# ZENV15-R-100	Recombinant (E. coli) Zika Virus Envelop Protein (African, full length, >95%, his tag)	Size:100 ug



Zika virus was first isolated in 1947 from a monkey in Zika forest in Uganda. Zika virus has been known to infect humans since and a serological survey in 1952 found 50 people out of 84 had developed antibodies. Zika then spread to many African and Asian countries. Since April 2015, a large, ongoing outbreak of Zika virus that began in Brazil has spread to much of South and Central America and the Caribbean. So far, only about a dozen people in the United States have been infected, mostly travelers from abroad. But the virus is expected to arrive in Florida, Texas, and other Southern states during the spring and summer mosquito season. For most people, Zika isn't very dangerous at all. Only 1 in 5 people (20%) show any symptoms whatsoever, and those usually involve a low-grade fever, sore body, headache, and sometimes a rash. Zika is causing an alarm because of its association with birth defects or microcephaly (small head or incomplete brain development) in newborn babies by mother-to-child transmission, as well as a stronger one with neurologic conditions in infected adults, including cases of Guillain–Barré syndrome (GBS CDC found Zika in the brains of two babies with microcephaly and evidence of Zika in two pregnancies that ended in miscarriage. CDC recently confirmed that Zika virus outbreak causes microcephaly in babies.

Zika virus (ZIKV) is a member of the virus family Flaviviridae and the genus Flavivirus (*flavus* means yellow), transmitted by daytime-active Aedes mosquitoes, such as A. aegypti and A. albopictus. Zika virus is related to the dengue, yellow fever, Japanese encephalitis, and West Nile viruses. Like other flaviviruses, Zika virus is enveloped and icosahedral and has a non-segmented, positive-sense ss-RNA genome. There are two lineages of the Zika virus: The African lineage, and the Asian lineage. Phylogenetic studies indicate that the virus spreading in the Americas is most closely related to the Asian strain. Effective **vaccines** for yellow fever virus, Japanese encephalitis, and tick-borne encephalitis have been develop but there are **no vaccines for Zika virus**.



Source and Forms of Protein

Zika virus- Envelop protein was expressed in E.coli as his-tag fusion protein (full length, >95%, ~34 KDa). Purified ZENV protein is supplied in 10 mM Tris-HCl [pH 8], 0.05 M NaCl, 0.1 mM EDTA, 1 mM b-ME and 0.05 M Imidazole (or see lot sp. Conc. on the vial, typically 10 ug/20 ul).

Store at –20ºC in suitable size aliquots. SDS may crystallize in cold conditions. It should re-dissolve by warming before taking it from the stock. This preparation is not biologically active. It is suitable for ELISA as coating antigen or western blot +ve control. Do not freeze, thaw, or heat repeatedly.

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**: Purified ZENV is ~34 KDa. Load ~100-200 ng/lane for good visibility with appropriate antibodies.**

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

Specificity & Cross-reactivity

Zika virus Envelop sequence share 53-67% similarity with Spondweni virus, kedougou virus and Kokobera virus; 50% similarity with Dengue virus, Japanese encephalitis virus, West Nile virus. Zika virus African strain and Brazilian strains are 99% conserved.

References: Malone, RW et al., PLOS Neglected Tropical Diseases 2016; 10 (3): e0004530; Sikka, V; et al., Journal of Global Infectious Diseases., 2016., 8 (1): 3–15; Petersen, EE., MMWR. Morbidity and mortality weekly report., 2016., 65 (12): 315–22.

This product is for in vitro research use only.

Related Material available for ADI

Catalog#	Prod Description
RV-403100-1	Recombivirus™ Human Anti-Zika Virus (ZIKV) Envelop protein IgG ELISA kit
RV-403105-1	Recombivirus™ Human Anti-Zika Virus (ZIKV) Envelop protein IgM ELISA kit
RV-403110-1	Recombivirus™ Monkey Anti-Zika Virus (ZIKV) Envelop protein IgG ELISA kit
RV-403125-1	Recombivirus™ Mouse Anti-Zika Virus (ZIKV) Envelop protein IgM ELISA kit
RV-403200-1	Recombivirus™ Human Anti-Zika Virus (ZIKV) PrM protein IgG ELISA kit
RV-403205-1	Recombivirus™ Human Anti-Zika Virus (ZIKV) PrM protein IgM ELISA kit
RV-403210-1	Recombivirus™ Monkey Anti-Zika Virus (ZIKV) PrM protein IgG ELISA kit
RV-403305-1	Recombivirus™ Human Anti-Zika Virus (ZIKV) NS1 protein IgM ELISA kit
RV-403320-1	Recombivirus™ Mouse Anti-Zika Virus (ZIKV) NS1 protein IgG ELISA kit
RV-403325-1	Recombivirus™ Mouse Anti-Zika Virus (ZIKV) NS1 protein IgM ELISA kit
ZCAP17-P	Zika Virus Capsid immunodominant region (African, >95%, no tag) for ELISA
ZCAP17-S	Rabbit Anti-Zika Virus Capsid immunodominant peptide (African) antiserum
ZENV11-C	Recombinant (E. coli) Zika Virus Envelop Protein control for Western blot
ZENV11-S	Anti-Zika Virus Envelop Protein (full length, >95%, his tag) antiserum
ZENV15-R-10	Recombinant (E. coli) Zika Virus Envelop Protein (full length, >95%, his tag) for ELISA/Western
ZENV16-R-10	Recombinant (Sf-9) Zika Virus Envelop Protein (full length, >95%, his tag) for ELISA/Western

ZENV15-R-10-Zika-Env-protein
160510SV

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com