BOSTER

antibody and ELISA experts

# Human Dengue Virus IgM ELISA Kit (Direct EIA)

**Catalog number: EK7046**

For detection of multiple analytes using one single assay.

This package insert must be read in its entirety before using this product.

For research use only. Not for use in diagnostic procedures.

BOSTER BIOLOGICAL TECHNOLOGY
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# Human Dengue Virus IgM ELISA Kit (Direct EIA)

**Catalog Number:** EK7046

**Size:** 96 wells/kit

**Sample Type:** Serum and Plasma

**Storage:** Store the kit at 2°C to 8°C. Keep microwells sealed in a dry bag with desiccants. The reagents are stable until expiration of the kit. Do not expose reagent to heat, sun, or strong light. Avoid multiple freeze-thaw cycles (Ships with gel ice, can store for up to 3 days in room temperature. Freeze upon receiving.)

## Introduction

Diluted patient serum is added to wells coated with purified antigens. If antibody against target antigen is present, the antibody will bind to the antigen. All unbound materials are washed away and the enzyme conjugate is added to bind to the antibody-antigen complex, if present. Excess enzyme conjugate is washed off and substrate is added. The enzyme catalyzes the substrate yielding a blue color (Amax = 370nm and 652nm) that changes to yellow (Amax = 450nm) upon addition of a sulfuric or phosphoric acid stop solution. The intensity of the color developed is proportional to the amount of IgG specific antibody in the sample.

## Kit Components

| Description | Quantity |
|---|---|
| 1. Microwells coated with Dengue antigen | 12x8x1 |
| 2. Sample Diluent: 1 bottle (ready to use) | 22 ml |
| 3. Calibrator: yellow Cap. 1 Vial (ready to use) | 1ml |
| 4. Positive Control: Red Cap. 1 vial (ready to use) | 1ml |
| 5. Negative Control: Blue Cap. 1 vial (ready to use) | 1ml |
| 6. Enzyme conjugate: 1 bottle (ready to use) | 12ml |
| 7. TMB Substrate: 1 bottle (ready to use) | 12ml |
| 8. Stop Solution: 1 bottle (ready to use) | 12ml |
| 9. Wash concentrate 20X: 1 bottle | 25ml |

## Materials Required, but Not Provided

1. Distilled or deionized water

2. Precision pipettes

3. Disposable pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.

4. ELISA reader capable of reading absorbance at 450nm

5. Absorbance paper or paper towel

6. Graph paper

## WARNINGS AND PRECAUTIONS

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1. For research use only. Not for use in diagnostic procedures.
2. For laboratory use.
3. Potential biohazardous materials: The calibrator and controls contain human source components, which have been tested and found non-reactive for hepatitis B surface antigen as well as HIV antibody with FDA licensed reagents. However, as there is no test method that can offer complete assurance that HIV, Hepatitis B virus or other infectious agents are absent, these reagents should be handled at the Biosafety Level 2, as recommended in the Centers for Disease Control/National Institutes of Health manual, "Biosafety in Microbiological and Biomedical Laboratories." 1984
4. Optimal results will be obtained by strict adherence to the test protocol. Precise pipetting as well as following the exact time and temperature requirements is essential.
5. Do not pipette by mouth. Do not smoke, eat, or drink in the areas in which specimens or kit reagents are handled.
6. The components in this kit are intended for use as an integral unit. The components of different lots should not be mixed.
7. Control sera and sample diluent contain preserved with sodium azide. Sodium azide may react with lead and copper plumbing to form explosive metal azide. On disposal, flush with a large volume of water.

## SPECIMEN COLLECTION AND HANDLING

1. Collect blood specimens and separate the serum.
2. Specimens may be refrigerated at 2-8°C for up to seven days or frozen for up to six months. Avoid repetitive freezing and thawing.

## REAGENT PREPARATION

Prepare 1X Wash buffer by adding the contents of the bottle (25 ml, 20X) to 475 ml of distilled or deionized water. Store at room temperature (20-25°C).

## ASSAY PROCEDURE

Bring all specimens and kit reagents to room temperature (20-25°C) and gently mix.
1. Place the desired number of coated strips into the holder.
2. Negative control, positive control, and calibrator are ready to use. Prepare 1:21 dilution of test samples, by adding 10ul of the sample to 200ul of sample diluent. Mix well.
3. Dispense 100ul of diluted sera, calibrator and controls into the appropriate wells. For the reagent blank, dispense 100ul sample diluent in 1A well position. Tap the holder to remove air bubbles from the liquid and mix well. Incubate for 20 minutes at room temperature.
4. Remove liquid from all wells. Wash wells three times with 300ul of 1X wash buffer. Blot on absorbance paper or paper towel.
5. Dispense 100ul of enzyme conjugate to each well and incubate for 20 minutes at room temperature.
6. Remove enzyme conjugate from all wells. Wash wells three times with 300ul of 1X wash buffer. Blot on absorbance paper or paper towel.
7. Dispense 100ul of TMB substrate and incubate for 10 minutes at room temperature.
8. Add 100ul of stop solution.
9. Read O.D. at 450 nm using ELISA reader within 15 min. A dual wavelength is recommended with reference filter of 600-650 nm.

## CALCULATION OF RESULTS

1. Check Calibrator Factor (CF) value on the calibrator bottle. This value might vary from lot to lot. Make sure you check the value on every kit.
2. Calculate the cut-off value: Calibrator OD x Calibrator Factor (CF).
3. Calculate the Ab (Antibody) Index of each determination by dividing the O.D. value of each sample by cut-off value.

## LIMITATION OF THE TEST

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1. To enhance sensitivity and specificity of this IgM test provided sample diluent has been formulated to block IgG and Rheumatoid Factor (RF) interferences. Turbidity could be seen after diluting serum with sample diluent. This turbidity is due to the blocking of serum IgG and has shown no interference with test results. It can be removed by centrifugation.
2. In specimens with high RF and high autoimmune antibodies, the possibility of eliminating the interferences cannot be ruled out entirely.
3. Lipemic or hemolyzed samples may cause erroneous results.

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