

## Human HBsAb (Hepatitis B Virus surface antibody)ELISA Kit

**Catalogue No.:** EH4104

**Size:** 96T

**Reactivity:** Human

**Application:** This immunoassay kit allows for the qualitative determination of HBsAb in human serum or plasma.

**Storage:** 2-8°C

**NOTE: FOR RESEARCH USE ONLY.**

### Kit Components

Item	Specifications(96T)	Storage
Micro ELISA Plate(Dismountable)	12 × 8	2-8°C/-20°C
HBsAb Positive Control	1ml×1	2-8°C
HBsAb Negative Control	1ml×1	2-8°C
HRP- HBsAg	7ml×1	2-8°C
TMB substrate A	7ml×1	2-8°C(Avoid Direct Light)
TMB substrate B	7ml×1	2-8°C(Avoid Direct Light)
Stop solution	7ml×1	2-8°C
Wash buffer (20X)	25ml×1	2-8°C
Plate Sealer	3pieces	
Product Description	1 copy	

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### **Principle of the Assay**

This kit was based on sandwich enzyme-linked immune-sorbent assay technology. HBsAg was pre-coated onto 96-well plates. The test samples and HRP conjugated HBsAg were added to the wells, if there were any HBsAb in the samples, it would form a HBsAg - HBsAb - HRP- HBsAg complex. TMB substrates were used to visualize HRP enzymatic reaction. It was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The optical density of developed color is read with a suitable photometer at 450nm with a selected reference wavelength within 650 nm.

### **Precautions for Use**

1. To inspect the validity of experiment operation and the appropriateness of sample dilution proportion, pilot experiment using standards and a small number of samples is recommended.
2. After opening and before using, keep plate dry.
3. Before using the kit, spin tubes and bring down all components to the bottom of tubes.
4. Storage TMB reagents avoid light.
5. Washing process is very important, not fully wash easily cause a false positive and high background.
6. Duplicate well assay is recommended for both standard and sample testing.
7. Don't let microplate dry at the assay, for dry plate will inactivate active components on plate.
8. Don't reuse tips and tubes to avoid cross contamination.
9. Please do not mix the reagents in different kits of our company. Do not mix reagents from other manufacturers.
10. To ensure accurate results, proper adhesion of plate sealers during incubation steps is necessary.

### **Material Required But Not Supplied**

1. Microplate reader (wavelength: 450nm)
2. 37°C incubator
3. Automated plate washer
4. Precision single and multi-channel pipette and disposable tips
5. Clean tubes and Eppendorf tubes
6. Deionized or distilled water

### **Manual Washing**

Discard the solution in the plate without touching the side walls. Clap the plate on absorbent filter papers or other absorbent material. Fill each well completely with 350ul wash buffer and soak for 1 to 2 minutes, then aspirate contents from the plate, and clap the plate on absorbent filter papers or other absorbent material. Repeat this procedure two more times for a total of THREE washes.

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### Automated Washing

Aspirate all wells, and then wash plate THREE times with 350ul wash buffer. After the final wash, invert plate, and clap the plate on absorbent filter papers or other absorbent material. It is recommended that the washer be set for a soaking time of 1 minute.

### Sample Collection and Storage

Isolate the test samples soon after collecting, then, analyze immediately (within 2 hours). Or aliquot and store at -20°C for long term. Avoid multiple freeze-thaw cycles.

- Serum: Coagulate the serum at room temperature (about 1 hours). Centrifuge at approximately 1000 × g for 15 min. Analyze the serum immediately or aliquot and store at -20°C.
- Plasma: Collect plasma with heparin or EDTA as the anticoagulant. Centrifuge for 15min at 2-8°C at 1500 x g within 30 min of collection. For eliminating the platelet effect, suggesting that further centrifugation for 10 min at 2-8°C at 10000 x g. Analyze immediately or aliquot and store frozen at -20°C.

**Note:** Samples used within 5 days can be stored at 2-8°C; otherwise, they must be stored at -20°C or -80°C or liquid nitrogen to avoid loss of biological activity and contamination. Avoid multiple freeze-thaw cycles. Hemolytic samples are not suitable for this test.

### Wash Buffer Preparation:

Dilute 25mL of Concentrated Wash Buffer into 475mL of Wash Buffer with deionized or distilled water.

### Assay Procedure

1. Put the kit at room temperature for 20 minutes before use.
2. Label the sample wells, 2 Negative Controls, 2 Positive Controls and 1 blank well
3. Add 50µL sample, Negative Controls and Positive Controls to each well, except blank well.
4. Add 50 µL HRP- HBsAg to each well, except blank well, gently tap the plate to ensure thorough mixing.
5. Seal the plate with a cover and incubate at 37°C for 60 min.
6. Remove the cover, and wash plate 5 times with Wash buffer, and let the wash buffer stay in the wells for 0.5-1 minute each time.
7. Add 50 µl of TMB substrate A and 50 µl of TMB substrate B into each well. Gently tap the plate to ensure thorough mixing. Cover the plate and incubate at 37°C in dark within 15 min. And the shades of blue can be seen in the Positive Controls. Negative Controls wells show no obvious color.
10. Add 50 µl of Stop solution into each well and mix thoroughly. The color changes into yellow immediately.

11. Read the O.D. absorbance at 450 nm in a microplate reader immediately after adding the stop solution.  
(Use the blank well to set zero)

#### **Data Analysis**

##### **Calculation of the Cutoff Value(C.O.)**

$$\text{C.O.} = \text{NCx} \times 2.1$$

**NCx:** Mean Absorbance of Negative Control, if  $\text{NCx} \leq 0.05$ , it should be regarded as 0.05.

##### **Calculation of Results**

Mean Absorbance of Negative Control  $> 0.1$  OR Mean Absorbance of Positive control  $\leq 0.4$ , it should be retested

Sample with absorbance values  $\leq \text{C.O.}$  are NON-REACTIVE and are considered NEGATIVE for HBsAb.

Sample with absorbance values  $> \text{C.O.}$  are considered POSITIVE for HBsAb.