

THIS KIT IS INTENDED FOR RESEARCH USE ONLY.

NOT FOR USE IN DIAGNOSTIC PROCEDURES.

Store at 2 to 8°C.

SUMMARY OF ASSAY PROCEDURE

1. Sample dilution 1:40

5 µl / 200 µl

2. Three incubations at 37°C

Diluted Sample 100 µl	Enzyme Conjugate 100 µl	TMB Reagent (One-Step) 100 µl
30 min.	30 min.	15 min.

3. Stop with 100 µl of acid. Read O.D. at 450 nm

INTENDED USE

The HSV-1 IgM ELISA is intended for measurement IgM antibodies to herpes simplex virus HSV-1.

PRINCIPLE OF THE TEST

Purified HSV-1 antigen is coated on the surface of microwells. Diluted specimen serum is added to the wells, and the HSV-1 IgM- specific antibody, if present, binds to the antigen. All unbound materials are washed away.

HRP-conjugate is added, which binds to the antibody-antigen complex. Excess HRP-conjugate is washed off and a solution of TMB Reagent is added. The enzyme conjugate catalytic reaction is stopped at a specific time. The intensity of the color generated is proportional to the amount of HSV-1 IgM-specific antibody in the sample. The results are read by a microwell reader compared in a parallel manner with calibrator and controls.

REAGENTS

Materials provided with the kit:

- Microtiter Wells: purified *HSV-1* antigen coated wells (12 x 8 wells)
- Enzyme Conjugate Reagent (red color): 1 vial (12 ml) Sample Diluent (blue color): 1 bottle (22 ml)

- Negative Control: Range stated on label. Natural cap (100 µL/vial)
- Cut-off Calibrator: Yellow cap. HSV-1 IgM Index = 1 (100 µL/vial)
- Positive Control: Range stated on label. Red cap. (100 µL/vial)
- Wash Buffer Concentrate (20x): 1 bottle (50 ml)
- TMB Reagent (One-Step): 1 vial (11 ml)
- Stop Solution (1N HCl): Natural cap. 1 vial (11 ml)

STORAGE OF TEST KITS AND INSTRUMENTATION

1. Store the kit at 2-8°C.
2. Keep microwells sealed in a dry bag with desiccants.
3. The reagents are stable until expiration of the kit.
4. Do not expose test reagents to heat, sun or strong light during storage or usage.

WARNING AND PRECAUTIONS

1. 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
2. Do not pipette by mouth. Do not smoke, eat, or drink in the areas in which specimens or kit reagents are handled.
3. The components from different lots should not be mixed.
4. This product contains components 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 PREPARATION

1. Collect blood specimens and separate the serum.
2. Specimens may be refrigerated at 2-8°C for up to 7 days or frozen for up to 6 months. Avoid repetitive freezing and thawing of serum sample.

REAGENT PREPARATION

1. All reagents should be allowed to reach room temperature (18-25 °C) before use.
2. Dilute 1 volume of Wash Buffer (20x) with 19 volumes of distilled water. For example, dilute 50 ml of Wash Buffer (20x) into distilled water to prepare 1000 ml of Wash Buffer (1x). Wash Buffer is stable for 1 month at 2-8°C. Mix well before use.

ASSAY PROCEDURE

1. Place the desired number of coated wells into the holder.
2. Prepare 1:40 dilution of test samples, negative control, positive control, and calibrator by adding 5 µl of the sample to 200 µl of Sample Diluent. Mix well.
3. Dispense 100 µl of diluted sera, calibrator, and controls into the appropriate wells. For the reagent blank, dispense 100 µl Sample Diluent in 1A well position. Tap the holder to remove air bubbles from the liquid and mix well.
4. Incubate at 37°C for 30 minutes.
5. At the end of incubation period, remove liquid from all wells. Rinse and flick the microtiter wells 5 times with diluted Wash Buffer (1x).
6. Dispense 100 µl of Enzyme Conjugate to each well. Mix gently for 10 seconds.
7. Incubate at 37°C for 30 minutes.
8. Remove Enzyme Conjugate from all wells. Rinse and flick the microtiter wells 5 times with diluted Wash Buffer (1x).
9. Dispense 100 µl of TMB Reagent into each well. Mix gently for 10 seconds.
10. Incubate at 37°C for 15 minutes.
11. Add 100 µl of Stop Solution (1N HCl) to stop reaction.
12. Mix gently for 30 seconds. ***It is important to make sure that all the blue color changes to yellow color completely.***

Note: Make sure there are no air bubbles in each well before reading.

13. Read O.D. at 450 nm ***within 15 minutes*** with a microwell reader.

CALCULATION OF RESULTS

1. Calculate the mean of duplicate calibrator value x_c .
2. Calculate the mean of duplicate positive control (x_p), negative control (x_n) and specimen samples (x_s).
3. Calculate the HSV-1 M Index of each determination by dividing the mean values of each sample (x) by calibrator mean value, x_c .

Example of typical results: Note: The O.D. values are for the purpose of illustration only, and should not be used to calculate unknowns. Each user should obtain his or her own data.

Cut-off Calibrator HSV-1 IgM Index = 1.0

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| 1. Calibrator O.D. = 0.931, 0.890 | $x_c = 0.911$ |
| 2. Negative Control O.D. = 0.062, 0.062 | $x_n = 0.062$ |
| HSV-1 IgM Index = $x_n / x_c = 0.062 / 0.911 = 0.07$ | |
| 3. Positive Control O.D. = 1.403, 1.394 | $x_p = 1.399$ |
| HSV-1 IgM Index = $x_p / x_c = 1.399 / 0.911 = 1.54$ | |
| 4. Specimen sample O.D. = 1.547, 1.550 | $x_s = 1.549$ |
| HSV-1 IgM Index = $x_s / x_c = 1.549 / 0.911 = 1.70$ | |

REFERENCES

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3. Coleman, R.M., L. Pereira, P.D. Bailey, D. Dondero, C. Wickliffe, and A.J. Nahmias. Determination of herpes simplex virus type specific antibodies by enzyme-linked immunosorbent assay. J. Clin. Microbiol. 18 (1983) 287.

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