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Product Information

VZV IgG ELISA kit

Catalog Number: EA100967
Storage Temperature: 2 – 8°C

Instruction for Use

Intended Use

The VZV IgG ELISA Kit is intended for the detection of IgG antibody to VZV in human serum or plasma.

Background

Varicella zoster virus causes chickenpox a highly contagious disease acquired by touching the blisters or respiratory secretions, or through the air. A person is usually infectious 1-2 days before the rash to 4-5 days after the start of the rash, or until the blisters have formed crusts. Symptoms start about 2-3 weeks after exposure and include fever, tiredness, and an itchy rash with small blisters that dry up and form scabs in 2-4 days. More severe but rare problems or complications that could occur are pneumonia (especially in adults), skin infection, blood infection and encephalitis. Approximately 90% of chickenpox cases are in children 1-14 years of age, and 90% of people have had chickenpox by their early 20's. The reactivated form (herpes zoster: shingles) of VZV infection generally occurs in older adults whose immunity has waned, in infants or children exposed to VZV in the perinatal period or in the immunocompromised. VZV infection during pregnancy infrequently leads to maternal pneumonia. Chickenpox can occur during pregnancy in women seropositive for VZV, especially when seropositive at low titer, with low-avidity, largely IgG3 antibodies. Maternal VZV infection during pregnancy (especially between 13-20 weeks gestation) can be associated with outcomes ranging from skin scarring or limb hypoplasia to multi system involvement and death. Because VZV and herpes simplex virus (HSV) can cross-react, viral culture can be used to detect and differentiate HSV from VZV, but PCR testing may prove the most valuable for diagnosing and differentiating active infection. IgG antibodies can be detected 9 days after the onset of rash in varicella, 10 days in zoster; immunoreactivity peaks at an average 66 and 27 days, respectively. The IgM response to varicella is detected at 6-7 days post-onset and peaks at an average 14 days; IgM response to zoster is detectable at 8- 10 days and peaks at 18-19 days.

Principle of the Test

Diluted patient serum is added to wells coated with purified antigen. IgG specific antibody, if present, binds 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 plate is incubated to allow the hydrolysis of the substrate by the enzyme. The intensity of the color generated is proportional to the amount of IgG specific antibody in the sample.

Components

MATERIALS PROVIDED	96 Tests
1. Microwells coated with VZV antigen	12x8x1
2. Sample Diluent: 1 bottle (ready to use)	22 ml
3. Calibrator: 1 Vial (ready to use)	1ml
4. Positive Control: 1 vial (ready to use)	1ml
5. Negative Control: 1 vial (ready to use)	1ml
6. Enzyme conjugate: 1 bottle (ready to use)	12 ml
7. TMB Substrate: 1 bottle (ready to use)	12 ml
8. Stop Solution: 1 bottle (ready to use)	12 ml
9. Wash concentrate 20X: 1 bottle	25 ml

Materials and Equipment Required but Not Provided

1. Distilled or deionized water
2. Precision pipettes
3. Disposable pipette tips
4. ELISA reader capable of reading absorbance at 450nm
5. Absorbance paper or paper towel

Disclaimer

This product is for research use only and not intended for diagnostic procedures.

Specimen Collection and Preparation

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

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

Assay Procedure

- Before proceeding with the assay, bring all reagents, serum references and controls to room temperature (20-25°C). Gently mix all reagents before use
- The components in this kit are intended for use as an integral unit. The components of different lots should not be mixed
- It is recommended that standards, control and serum samples be run in duplicate
- Do not use sodium azide as preservative. Sodium azide inhibits HRP enzyme activities

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 10 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. Incubate for 20 minutes at room temperature.
4. Remove liquid from all wells. Wash wells three times with 300 µl of 1X wash buffer. Blot on absorbance paper or paper towel.
5. Dispense 100 µl l 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 300 µl of 1X wash buffer. Blot on absorbance paper or paper towel.
7. Dispense 100 µl of TMB substrate and incubate for 10 minutes at room temperature. Add 100 µl of stop solution.
8. 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.

Limitations of the Test

1. Lipemic or hemolyzed samples may cause erroneous results.

References

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7. Gil A; Gonz´alez A; Dal-R´e R; Ortega P; Dominguez V. Prevalence of antibodies against varicella zoster, herpes simplex (types 1 and 2), hepatitis B and hepatitis A viruses among Spanish adolescents. J Infect 1988; 36(1):53-6.