OriGene Technologies, Inc.
9620 Medical Center Dr., Suite 200, Rockville, MD 20850
Phone: 1.888.267.4436 Fax: 301-340-9254
Email: techsupport@origene.com Web: www.origene.com

Product Information

Chlamydia pneumoniae IgG ELISA kit

Catalog Number: EA100931
Storage Temperature: 2 – 8°C

Instruction for Use

Intended Use

The *Chlamydia pneumoniae* IgG ELISA Kit is intended for the detection of IgG antibody to *C. pneumoniae* in human serum or plasma.

Background

Chlamydia pneumoniae, the third recognized of five possible species of *Chlamydia* (*trachomatis, psittaci*, *pneumoniae, pecorum* and an as-yet-unnamed species) was formerly known as Chlamydia spp. strain TWAR. This respiratory pathogen which causes acute respiratory disease, pneumonia and pharyngitis is often isolated from patients with otitis media with effusion, pneumonia with pleural effusion and in asymptomatic respiratory tract infections. *C. pneuomoniae* causes up to 10% of community-acquired pneumonia cases and it is also a risk factor for coronary heart disease and Guillain-Barré syndrome. Seroprevalence of *C.pneumoniae* among children is low and increases sharply in teenagers, continues to increase until middle age, and remains high (>50%) into old age, suggesting that most people have more than one *C.pneumoniae* infection during their lifetime. Primary Chlamydia infection is characterized by a predominant IgM response within 2 to 4 weeks and a delayed IgG and IgA response within 6 to 8 weeks. After acute *C.pneumoniae* infection, IgM antibodies are usually lost within 2 to 6 months IgG antibody titers rise and usually decrease slowly; whereas IgA antibodies tend to disappear rapidly. When primary Chlamydia infection is suspected, the detection of IgM is highly diagnostic. In reinfection, IgM level may be rarely detected while IgG and IgA levels rise quickly, often in one to two weeks. IgA antibodies have shown to be a reliable immunological marker of primary, chronic and recurrent infections. These antibodies usually decline rapidly to baseline levels following treatment and eradication of the Chlamydia infections.

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 *C. pneumoniae* antigen	12x8x1
2. Sample Diluent: 1 bottle (ready to use)	22 ml

3. Calibrator: 1 Vial (ready to use)	1 ml
4. Positive Control: 1 vial (ready to use)	1 ml
5. Negative Control: 1 vial (ready to use	1 ml
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 (18-26°C).

Assay Procedure

- Before proceeding with the assay, bring all reagents, serum references and controls to room temperature (18-26°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 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.
8. Add 100 µl 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.

Example of a Standard Curve

Calibrator mean OD = 0.8
Calibrator Factor (CF) = 0.5
Cut-off Value = 0.8 x 0.5= 0.400
Positive control O.D. = 1.2
Ab Index = 1.2 / 0.4 = 3
Patient sample O.D. = 1.6
Ab Index = 1.6 / 0.4 = 4.0

Quality Control

The test run may be considered valid provided the following criteria are met:

1. If the O.D. of the Calibrator should be greater than 0.250.
2. The Ab index for Negative control should be less than 0.9.
3. The Ab index for Positive control should be greater than 1.2.

Interpretation

The following is intended as a guide to interpretation of *C. pneumoniae* IgG test results; each laboratory is encouraged to establish its own criteria for test interpretation based on sample populations encountered.

- **Antibody Index Interpretation**
  - <0.9 No detectable antibody to *C. pneumoniae* IgG by ELISA
  - 0.9-1.1 Borderline positive. Follow-up testing is recommended if clinically indicated.
  - >1.1 Detectable antibody to *C. pneumoniae* IgG by ELISA

References

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