## TITLE: CMS Sure Vue ASO (Qualitative)

## PRINCIPLE:

The rheumagen ASO latex reagent is a suspension of polystyrene latex particles of uniform size coated with streptolysin-O. Latex particles allow visual observation of the antigen-antibody reaction. When a serum containing antistreptolysin-O is mixed with the rheumagen ASO latex reagent, the uniform appearance of the latex suspension will convert to a clear agglutination. This change occurs because the antistreptolysin-O present in the serum reacts with the streptolysin-O coated latex particles, forming a web between them.

NOTE: When rheumagen ASO latex reagent is mixed with a serum if the serum contains abnormally high levels of antistreptolysin-O, a clear agglutination will appear.

**CLINICAL SIGNIFICANCE:**

The group A- B-hemolytic streptococci produces various toxins that can act as antigens. One of these exotoxins is streptolysin-O that was discovered by Todd in 1932.

A person infected with group B-hemolytic streptococci produces specific antibodies against these exotoxins; one can be an aid into the diagnosis of acute rheumatic fever and post-streptococcal glomerulonephritis.

The usual procedure for the determination of the antistreptolysin titer is based on the inhibitory effect that the patient’s serum produces on the hemolytic power of a pretitrated and reduced streptolysin-O. However the antigen-antibody reaction occurs independently of the hemolytic activity of streptolysin-O. This property enables the establishment of a qualitative and semi quantitative test for the determination of the antistreptolysin-O by agglutination of latex particles on slide.

**PERSONNEL**

###### Medical Technologists

**REAGENT & EQUIPMENT**

Materials Required

1. Normal Saline (0.9% NaCl)

2. Test Tubes

3. Automatic pipettes

4. Timer

5. Rotary Shaker

Materials Provided

1. Rheumajet ASO latex reagent

2. Positive control, prediluted

3. Negative control, prediluted

4. Disposable slides

\*Above reagents should be stored at +2 to +8 degrees C. DO NOT FREEZE.

**Sample Collection**

Use fresh serum. If the test cannot be carried out on the same day, the serum may be stored between 2-8C for up to eight days after collection. For longer periods the sample must be frozen (-20°C).

It is not necessary to inactivate the serum. As in all serological tests, hemolytic, lipemic or turbid serum must not be used. Do not use plasma.

### CALIBRATION

None indicated

### QUALITY CONTROL

1. The latex reagents should be tested with each of the controls, positive and

 negative, included in the kit prior to each set of determinations.

2. Both controls should be used following steps 4 through 7 of the Qualitative Technique. Do not dilute the controls prior to use.

3. The reaction between the positive control and the reagent should show

 a clear agglutination, different from the uniform appearance of the negative

 control. If no agglutination takes place, the test should be repeated. If there

 is still no positive reaction, contact the Senior Technologist.

4. Enter all QC Results in the Quality Control program in the LIS.

## STEPWISE PROCEDURE:

A. 100 IU/mL Detection Level

 1. Allow reagents and samples to reach room temperature (20 to

 30°C).

 2. Gently shake the reagent vial to disperse and suspend the latex

 particles in the buffer solution. Vigorous shaking should be

 avoided.

 3. Place 100 ul of the serum onto one section of the disposable slide.

 4. Place one drop of reagent next to the drop of serum.

 5. Mix drops together with a stirrer covering the whole surface of the slide

 section.

6. Gently rotate the slide for 4 minutes manually or on a rotary shaker set at 80-100 rpm.

1. Look for the presence or absence of agglutination after the aforementioned period of time.
2. A positive result will be tittered if requested by the physician.

### REPORTING RESULTS

Report all results through the Laboratory Information System. Refer to the LIS Procedure Manual for complete instructions

 Negative = None Detected

 Positive = Detected

Titers on ASO’s will no longer be done automatically on positive screening results. The comment **"If titer required, please contact the lab"** will need to be added to the screening test.

### LIMITATION

Results should be read at the time indicated after the mixing of the reagents on the slide. A reading obtained after this period of time may be incorrect. Existence of prozone at high titers has not been encountered.

### INTERPRETATION OF RESULTS

100 Iu/ml detection level

The presence of agglutination indicated a content of antistreptolysin-O in the serum equal to or greater than 100 IU/ml. The absence of agglutination indicates content

of antistreptolysin-O in the serum of less than 100 IU/ml.

### EXPECTED VALUES

Although normal values can vary with age, season of the year and geographical area, the “upper limit of normal” antistreptolysin-O titers for preschool children is less than 100 IU/ml and in school age children or young adults is usually between 166 and 250 IU/ml. In any case, the average can be established at less than 200 IU/ml. Because of this variation, titers above the upper limits may be indicative of a streptococcal infection, but only a two dilution rise in titer between acute and convalescent state specimens should be considered significant. Following acute streptococcal infection, the antistreptolysin-O titer will usually rise after one week, increasing to a maximum level within 3 to 5 weeks and usually returning to the preinfection levels in approximately 6 to 12 months.

### INTERFERING SUBSTANCES

See Sure Vue ASO package insert for interfering substances.

### REFERENCE

CMS Sure Vue Package Insert BioKit 06/15

 I-10/15

S:Laboratory P&P/Serology/4840-IM-100/10/04/11ch



