QUALITATIVE DETERMINATION OF ANTI-STREPTOLYSIN O (ASO) IVD

ORDER INFORMATION

| REF: ASO 25 | Cont. | 1x25 Tests |
| ASO 50     |       | 1x50 Tests |
| ASO 100    |       | 1x100 Tests |

CLINICAL SIGNIFICANCE

Antistreptolysins (ASL) are specific antibodies to extracellular products of Streptococcus pyogenes (Group A streptococcus: GAS), among which Antistreptolysin O (ASO) is the one most used for clinical laboratory evaluation. Antistreptolysin O reaction provides useful information for diagnosis and monitoring of human streptococcal infections such as in tonsillitis, otitis, erysipela, scarlet fever as well as connected disease like rheumatic fever of glomerulonephritis. Antibodies against streptolysin O can be detected 1-3 weeks after infection with maximum levels reached at 3-6 weeks. Pathological ASO values always indicate the presence of a streptococcal infection whereas a negative result cannot exclude an existing or preceding GAS infection.

INTRODUCTION

The group A \( \beta \)-hemolytic streptococci produces various toxins that can act as antigens. One of these exotoxins streptolysin-O, was discovered by Todd in 1932.

A person infected with group A \( \beta \)-hemolytic streptococci produces specific antibodies against these exotoxin, one of which is antisterptolysin-O. The quantity of this antibody in a patient’s serum will establish the degree of infection due to the \( \beta \)-hemolytic streptococci.

The usual procedure for the determination of the antistreptolysin titre 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 quantitative test for the determination of the antistreptolysin-O by agglutination of latex particles on slide.

PRINCIPLE

The ASO Reagent contains latex particles coated with streptolysin O antigen. When the reagent is mixed with serum containing ASO at a level greater than 200 IU/ml the particles will agglutinate.

TEST SENSITIVITY

200 IU/ml

REAGENT COMPOSITION

Reagent 1 : ASO Latex Reagent
Reagent 2 : Positive Control Sera
Reagent 3 : Negative Control Sera

ACCESSORIES

Slides, Stirrer rods, Droppers

SAFETY PRECAUTIONS AND WARNINGS

1. The reagent contains sodium azide (0.95 g/l) as preservative. Do not swallow! Avoid contact with skin and mucous membranes.
2. Take the necessary precautions for the use of laboratory reagents.

SAMPLE COLLECTION AND PRESERVATION

Serum

REAGENT PREPARATION AND STORAGE

All reagents are ready to use.

REAGENT STABILITY

All reagents and controls are ready for use and stable up to the expiry date when stored at 2-8°C

QUALITATIVE DETERMINATION

Add in different circles of the slide:

- Serum to be tested 1 drop
- Positive Control 1 drop
- Negative Control 1 drop
- ASO latex reagent 1 drop

Mix and spread with the stirring rod to fill the test circle. Rotate the slide and observe for any agglutination which should occur within two minutes.

INTERPRETATION OF THE RESULTS

Marked agglutination indicates an ASO concentration above 200 IU/ml. All the positive samples should be tested by a semiquantitative method.

SEMI-QUANTITATIVE DETERMINATION

Prepare sample dilutions with saline 1:2, 1:4, 1:8, 1:16 etc. Test each dilution according to the qualitative procedure until no further agglutination is observed. The ASO concentration can then be estimated from the last dilution with the visible agglutination.

CALCULATION

ASO (IU/ml) = Highest dilution with positive reaction x reagent sensitivity (200 IU/ml).

QUALITY CONTROL

Accutestrol N - H

REFERENCE INTERVAL

Adults < 200 IU/ml

BIBLIOGRAPHY