

ASO TURBILATEX

(Latex-turbidimetry)

Quantitative Determination of Anti-Streptolysin O (ASO)

PRINCIPLE OF THE METHOD

The ASO-Turbilatex is a quantitative turbidimetric test for the measurement of ASO in human serum or plasma. Latex particles coated with streptolysin O (SLO) are agglutinated when mixed with samples containing ASO. The agglutination causes an absorbance change, dependent upon the ASO contents of the patient sample that can be quantified by comparison from a calibrator of known ASO concentration.

CLINICAL SIGNIFICANCE

SLO is a toxic immunogenic exoenzyme produced by β -haemolytic Streptococci of groups A, C and G. Measuring the ASO antibodies are useful for the diagnostic rheumatoid fever, acute glomerulonephritis and streptococcal infections. Rheumatic fever is an inflammatory disease affecting connective tissue from several parts of human body as skin, heart, joints, etc. and acute glomerulonephritis is a renal infection that affects mainly to renal glomerulus.

REAGENT PROVIDED

Diluent (R1) :- 2x 20 ml
Latex (R2) :- 2 x 5 ml
ASO Calibrator :- 1 x 0.5ml

WORKING REAGENT PREPARATION

Swirl the latex vial gently before use. Prepare the necessary amount as follows:
1 ml Latex Reagent + 4 ml Diluent

STORAGE AND STABILITY

All the components of the kit are stable until the expiration date on the label when stored at 2-8°C and contaminations are prevented during their use. Do not use reagents over the expiration date. **Do not freeze the reagents.**

REAGENT DETERIORATION:

Presence of particles and turbidity.

SAMPLES

Fresh serum or plasma. Stable for 7 days at 2-8°C or 3 months at -20°C. The samples with presence of fibrin should be centrifuged before testing. Do not use hemolyzed or lipemic samples.

CALIBRATION

Use ASO Lyophilized Stable Calibrator provided in the kit.

PRECAUTIONS

Components from human origin have been tested and found to be negative for the presence of HBsAg, HCV and HIV (1/2). However, handle cautiously as potentially infectious.

ASSAY GUIDELINE FOR ANALYZERS

Reaction type	Fixed Time
Reaction Slope	Increasing
Wavelength	546 nm (530-550)
Flow cell Temperature	37°C
Delay time	20 Seconds
Readings Time	120 Seconds
Zero Setting	Distilled water
Sample volume	10 μ l
Working Reagent volume	1000 μ l
Linearity	Up to 800 IU/ mL

ASSAY GUIDELINES FOR MANUAL PROCEDURE

Pre warm the required amount of working reagent at Room Temperature before use. Perform the assay as given below:

Reagents	Calibrator	Test
Working Reagent	1000 µl (1.0 ml)	1000 µl (1.0 ml)
Calibrator	10 µl	-
Serum/Plasma	-	10 µl

Mix and read the absorbance at 20 sec. (A_1) and after 120 sec. (A_2) of the sample addition.

CALCULATIONS

$$\frac{(A_2 - A_1) \text{ sample}}{(A_2 - A_1) \text{ calibrator}} \times \text{calibrator concentration} = \text{IU/ml ASO}$$

REFERENCE VALUES

Normal values up to 200 IU/mL (adults) and 100 IU/mL (children < 5 years old).

Each laboratory should establish its own reference range.

PERFORMANCE CHARACTERISTICS

- Linearity Limit:** Up to 800 IU/mL, under the described assay conditions. Samples with higher concentrations, should be diluted 1/3 in NaCl 9 g/l and retested again. The linearity limit depends on the sample-reagent ratio, as well as the analyzer used. It will be higher by decreasing the sample volume, although the sensitivity of the test will be proportionally decreased.
- Detection Limit:** Values less than 20 IU/mL give non-reproducible results.
- Prozone Effect:** No prozone effect was detected up to 3000 IU/ml.
- Sensitivity:** $\Delta 0.73$ mA. IU/mL.

QUALITY CONTROL

Control Sera (Level L and Level H) are recommended to monitor the performance of manual and automated assay procedures.

INTERFERENCES

Bilirubin (20 mg/dl), Hemoglobin (10 g/l), Lipemia (10 g/l) and Rheumatoid Factors (600 IU/ml), do not interfere. Other substances may interfere.



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