



Store at: +2+8°C.

Presentation:  
Cod. SE005 50 Test.  
Cod. SE006 100 Test.

## Procedure

### Diagnostic reagent for qualitative measurement of CRP (C-Reactive Protein).

#### Only for *in vitro* use in clinical laboratory (IVD)

#### TEST SUMMARY

The CRP-latex agglutination is a slide agglutination test for the qualitative and semi-quantitative detection of C- Reactive Protein in human serum. Latex particles coated with goat IgG anti-human CRP are agglutinated when mixed with samples containing CRP.

#### REAGENTS COMPOSITION

<b>Latex Ref. SE007 - 5 mL</b>	Latex particles coated with goat IgG anti-human CRP, pH, 8.2. Preservative.
<b>Control (+) 1 mL</b>	Human serum with a CRP concentration > 20 mg/L. Preservative.
<b>Control (-) 1 mL</b>	Animal serum. Preservative.

#### PRECAUTIONS

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

*Good laboratory safety practices should be followed when handling laboratory reagents or human samples.*

#### REAGENT PREPARATION AND STABILITY

All the kit components are ready to use, and will remain stable until the expiration date printed on the label, when stored tightly closed at 2-8°C and contaminations are prevented during their use.

Do not freeze; frozen reagents could change the functionality of the test.

Always keep vials in vertical position. If the position is changed, gently mix to dissolve aggregates that may be present.

#### Reagents deterioration:

- Presence of particles and turbidity.

*All the reagents of the kit are stable up to the end of the indicated month and year of expiry. Store tightly closed at 2-8°C. Do not use reagents over the expiration date.*

#### CALIBRATION

The CRP-latex sensitivity is calibrated to the Reference Material ERM-DA 472/IFCC.

#### SPECIMEN

Fresh serum. Stable 7 days at 2-8°C or 3 months at -20°C.

The samples with particles or fibrin should be centrifuged to eliminate them. Do not use haemolized or lipemic samples.

*Discard contaminated specimen.*

#### MATERIAL REQUIRED BUT NOT PROVIDED

- Mechanical rotator with adjustable speed at 80-100 r.p.m.
- Vortex mixer.
- Pipettes 50 µL.

#### General laboratory equipment

#### TEST PROCEDURE

##### Qualitative method

1. Allow the reagents and samples to reach room temperature. The sensitivity of the test may be reduced at low temperatures.
2. Place 50 µL of the sample (Note 1) and one drop of each Positive and Negative controls into separate circles on the slide test.
3. Mix the CRP-latex reagent vigorously or on a vortex mixer before using and add one drop (50 µL) next to the samples to be tested.
4. Mix the drops with a stirrer, spreading them over the entire surface of the circle. Use different stirrers for each sample.
5. Place the slide on a mechanical rotator at 80-100 r.p.m. for 2 minutes. False positive results could appear if the test is read later than two minutes.

##### Semi-quantitative method

1. Make serial two fold dilutions of the sample in 9 g/L saline solution.
2. Proceed for each dilution as in the qualitative method.

#### READING AND INTERPRETATION

Examine macroscopically the presence or absence of visible agglutination immediately after removing the slide from the rotator. The presence of agglutination indicates a CRP concentration equal or greater than 6 mg/L (Note 2, 3).

The titer, in semi-quantitative method, is defined as the highest dilution showing a positive result.

#### CALCULATIONS

The approximate CRP concentration in the patient sample is calculated as follow: 6 x CRP Titer = mg/L

#### QUALITY CONTROL

Positive and Negative controls are recommended to monitor the performance of the procedure, as well as a comparative pattern for a better result interpretation.

All result different from the negative control result, will be considered as a positive.

*Serum controls CRP are recommended for internal quality control. Each laboratory should establish its own Quality Control scheme and corrective actions.*

#### REFERENCE VALUES

Up to 6 mg/L.

*It is suggested that each laboratory establish its own reference range.*

#### CLINICAL SIGNIFICANCE

CRP is an acute-phase protein present in normal serum, which increases significantly after most forms of tissue injuries, bacterial and virus infections, inflammation and malignant neoplasia.

During tissue necrosis and inflammation resulting from microbial infections, the CRP concentration can rise by more than 300 mg/L in 12-24 hours.

*Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.*

#### REAGENT PERFORMANCE

- Analytical sensitivity: 6 (5-10) mg/L, under the described assay conditions
- Prozone effect: No prozone effect was detected up to 1600 mg/L (Note 1).
- Diagnostic sensitivity: 95.6 %
- Diagnostic specificity: 96.2 %

#### INTERFERING SUBSTANCES

Interferences:

- Do not interfere: Haemoglobin (10 g/L), bilirubin (20 mg/dL), lipemia (10 g/L).
- Interfere: Rheumatoid factors (100 IU/mL).
- Other substances may interfere<sup>7</sup>.

#### NOTES

1. High CRP concentration samples may give negative results (prozone effect). It is recommended to be retested using 20 µL of the sample.
2. The strength of agglutination is not indicative of the CRP concentration in the samples tested.
3. Clinical diagnosis should not be made on findings of a single test result, but should integrate both clinical and laboratory data.

#### BIBLIOGRAPHY

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