Lifescreen™ - CRP

(Latex Agglutination Method)

CLINICAL SIGNIFICANCE:

C - reactive protein (CRP) is an acute phase serum protein synthesized in liver. The name CRP is derived from the fact that this protein has the capacity to precipitate the somatic C-carbohydrate of Pneumococcus. Its rate of synthesis increases with in hours of an acute injury or the onset of inflammation and may reach as high as 20 times the normal level.

A rapid fall of CRP indicates recovery. The elevated CRP level directly reflects the mass or activity of inflammed tissue and its ability to fall to normal levels on resolution of the condition renders quantified CRP values to be a good indicator to allow rapid selection of appropriate anti-inflammatory therapy in several rheumatic diseases, which are clinically difficult to access.

Apart from indicating inflammatory disorders, CRP measurements help in differential diagnosis, in the management of neonatal septicemia and meningitis where standard microbiological investigations are difficult. CRP levels rise invariably after major surgery, but fall to normal within 7-10 days. Absence of this fall indicates inflammatory post operative complications. Serum CRP concentration also provides useful information in patients with myocardial infarction, there being an excellent correlation between peak levels of CRP and Creatine phosphokinase. CRP levels can also help in determining post-surgical complications.

TEST PRINCIPLE:

Uniform latex particles are coated with anti-human CRP. The specimen containing CRP on mixing with Latex Reagent agglutinates, showing a positive test result. If CRP is absent, there will be no agglutination, indicating a negative test result.

KIT CONTENTS:	**Code No. KCR1 (25T)**	**Code No. KCR2 (50T)**
Reagent 1. Latex Reagent	25 T	50 T
Reagent 2. Positive Control	0.25 ml	0.25 ml
Reagent 3. Negative Control	0.25 ml	0.25 ml

ACCESSORIES:

Black glass slide with 4-circles, glass dropper for latex reagent, capillary droppers & mixing sticks.

SPECIMEN:

Fresh serum collected by approved techniques. In case of a delay in testing, store at 2-8^{0}C (stable upto a week). Hemolysed , lipaemic or icteric serum samples should not be used.

STORAGE & STABILITY :

All the reagents are ready-to-use and are Stable at 2-8^{0}C till the expiry date mentioned on the labels.

PROCEDURE:

QUALITATIVE TEST:

1. Place one drop each of specimen, positive control and negative control in separate circles of the slide using the capillary droppers provided.
2. Add one drop of Latex Reagent in each of these circles.
3. Mix the content of each circle separately ,spreading it within the circle.
4. Rock the slide gently for 2 minutes and look for agglutination.

SEMI QUANTITATIVE TEST:

1. Dilute the specimen serially 1:2, 1:4, 1:8, 1:16, 1:32, 1:64 using normal saline.
2. Place one drop each of the serially diluted serum sample using the capillary droppers, in each circle of the slide. Now, proceed testing further as in the Qualitative Test method.

INTERPRETATION OF RESULTS:

QUALITATIVE TEST:

1. To validate test results , check agglutination with Positive Control and no agglutination with Negative Control .
2. Agglutination within 2 minutes is a positive test and indicates presence of CRP in the test specimen.
3. No agglutination up to 2 minutes is a negative test and indicates absence of CRP in the test specimen.

DO NOT OBSERVE RESULTS BEYOND 2 MINUTES

SEMI QUANTITATIVE TEST:

1. The highest dilution, which shows a visible agglutination within 2 minutes, indicates the CRP titre.
2. The approximate CRP concentration can be obtained by multiplying titre by sensitivity of the test.
   CRP in mg/dl = D x S
   Where,
   D= Highest dilution showing clear-cut agglutination.
   S= Sensitivity of the test is 0.6 mg/dl.

NOTES:

1. Bring all the reagents and samples to RT before use.
2. Do not freeze the Latex Reagent.
3. Positive and Negative Controls are ready to use and should not be diluted while using in test procedure
4. The reagents can be damaged on exposure to extreme temperatures.
5. It is recommended that the performance of the reagents be verified using the positive control provided
6. Use of plasma rather than serum can lead to erroneous CRP values.
7. Improper mixing and drying of reagents may lead to erroneous results Markedly lipaemic, hemolysed, and contaminated serum could produce non-specific CRP values.
8. Do not use hemolysed or turbid specimen.
9. Shake the Latex Reagent (1) well prior to use, to ensure a homogeneous latex suspension.
10. Contaminated sera and a longer reaction time may lead to false positive results
11. All material derived from human source have been tested for HBsAg & HIV antibodies and found to be non reactive. However, for better safety, handle this material with proper care.
12. Hold the glass dropper vertically while dispensing Latex Reagent, to ensure uniform drop size
13. Elevated CRP levels may also be found during pregnancy as well as in women who are on oral contraceptives.
14. As with all diagnostic procedure, the physician should evaluate data obtained by the use of the kit in light with other clinical information.

BIBLIOGRAPHY:

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