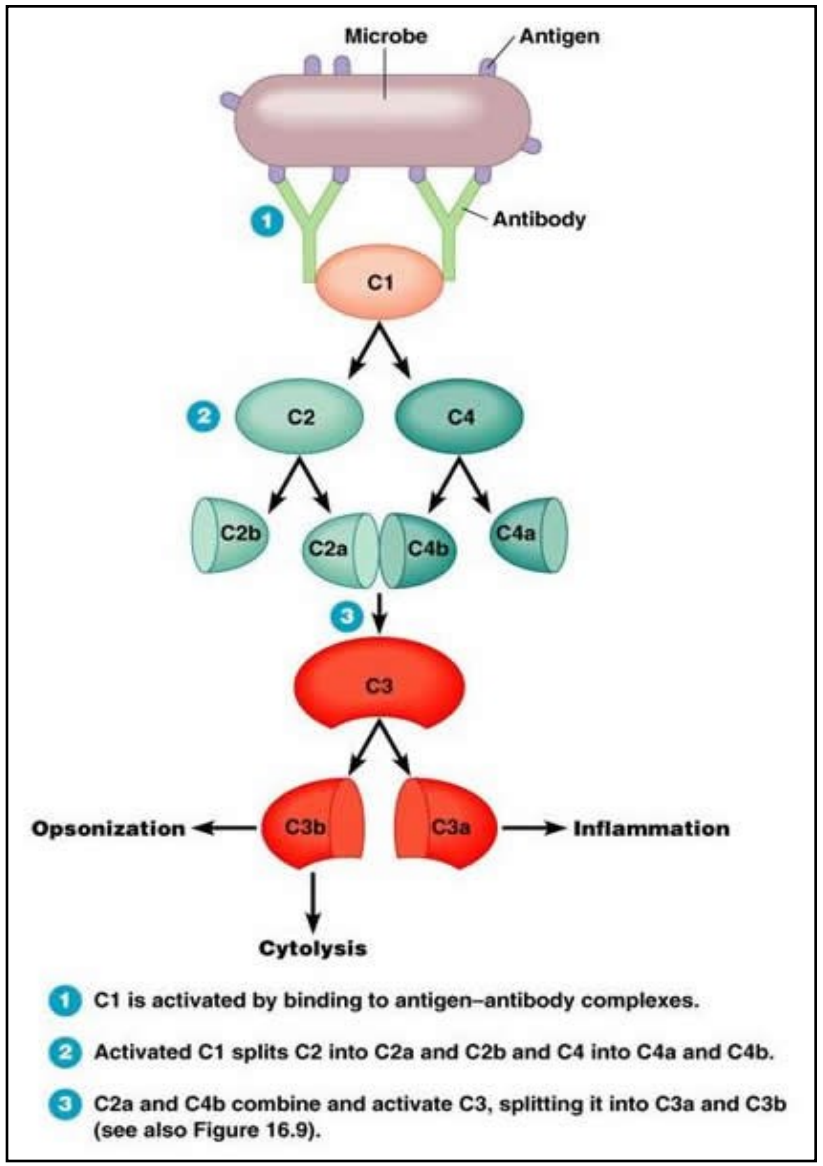
CH - 50 (Complement, total), Serum



- The complement system is composed of a set of circulating blood proteins that work together to promote immune and inflammatory responses
- Their principal role is to destroy foreign substances like bacteria and viruses
- The nine primary complement proteins are designated C1 through C9
- The complement system is part of the body's innate immune system
- The innate immune system is non-specific but can respond more quickly to foreign substances. However, the innate immune system does not maintain a memory of previous encounters, and is not as powerful as the antibody response

CH - 50 (Complement, total), Serum

- As part of the innate immune system, the complement system has evolved to recognize antigen-antibody complexes (immune complexes) as well as certain structures and polysaccharides (complex carbohydrates) found on the outside membranes of microorganisms and other foreign cells

- Complement tests are used to determine whether deficiencies or abnormalities in the complement system are causing, or contributing to, a patient's disease or condition

- Total complement activity (CH50) may be ordered to look at the integrity of the entire classical complement pathway

CH - 50 (Complement, total), Serum

- Complement testing may be requested when a person has unexplained infections, swellings, inflammation or symptoms of an autoimmune disorder such as systemic lupus erythematous (SLE)

- It may also be used when a doctor suspects that someone may have an immune complex-related condition and he wants to check the status of the complement system

- When a chronic immune-complex condition such as SLE has been diagnosed, complement testing may be used to help give a rough idea of the severity of the condition with the assumption that the severity is linked to the decrease in complement levels

CH - 50 (Complement, total), Serum

<u>THE BEST SCREENING TEST</u> :

- **TO SCREEN** complement deficiency associated immunodeficiency
- **TO DETECT** congenital and acquired severe deficiency disorders of the primary complement pathway
- **TO MONITOR** the progress of patients with immune complex disease like SLE

One CH-50 unit is defined as the volume of dilution of serum that lyses 50% of RBCs in reaction mixture.

CH - 50 (Complement, total), Serum

- Complement levels may be decreased due to a hereditary deficiency (relatively rare) or due to increased consumption

  - Hereditary deficiency in one of the complement proteins will usually lead to a high frequency of recurrent microbial infections
  - Decreased complement levels are also due to increased consumption in autoimmune diseases
  - If the deficiency is due to an underlying acute or chronic condition, complement levels will usually return to normal if the underlying condition can be resolved

- Increased complement levels are seen during acute or chronic inflammation

CH - 50 (Complement, total), Serum

TEST DETAILS	
Test Name	CH-50
Technology	EIA
Detection	Immune complex disease Immunodeficiency
Starting Material	3 ml Serum
Turnaround Time	6 days