Complement 3 (C3) Diagnostic Reagent Kit (Immunoturbidimetry Method)
Product Instruction

Product name

Generic Name: Complement 3 (C3) Diagnostic Reagent Kit (Immunoturbidimetry Method)
Abbreviation: C3

Package Specifications

R1	R2
40ml×1	10ml×1
800ml×1	200ml×1
8000ml×1	2000ml×1

Calibrator (lyophilized):
Specification 1 (0.5mL×4; 4 levels);
Quality Control (lyophilized):
Specification 1 (0.5mL×1; 1 level);

Intended use

Complement 3 (C3) diagnostic reagent is used for quantitative in vitro determination of C3 in human serum on photometric systems.

Clinical significance

C3 is the complement component with the highest content in serum, with a molecular weight of 195,000. It is mainly synthesized by macrophages and the liver. Under the action of C3 convertase, it cleaves into two fragments, C3a and C3b, and plays an important role in both the classical and alternative activation pathways of the complements. An increase of C3 is seen in the early stage of certain infectious diseases, tissue damage, acute inflammation, etc.; a decrease is mainly seen in nephritis, systemic lupus erythematosus, recurrent infections and other diseases caused by immune complexes. Therefore, measuring the content of C3 plays an important role in the diagnosis, treatment and prevention of certain acute inflammations, infectious diseases and immune diseases. The commonly used detection method is the immunoturbidimetric method.

Principle

When complement C3 in human serum and its corresponding antibody (goat anti-human complement C3 antibody) meet in the liquid phase, an antigen-antibody complex immediately forms and a certain turbidity also forms. Comparing with the calibrators treated in the same way, the content of complement C3 in the sample can be calculated.

Main ingredient

Composition	Main ingredients
R1	Phosphate buffer 20mmol/L
	Lipid elimination agent 5g/L
	Sodium chloride 9g/L
R2	Goat anti-human C3 specific antiserum 30%
Calibrator	Tris 50mM
	Trehalose 5%
	BSA 5%
	human complement C3
Quality Control	Tris 50mM
	Trehalose 5%
	BSA 5%
	human complement C3

Storage and stability

This kit stays stable for 18 months when stored in a dark condition at 2-8℃(do not freeze). After being opened for the first time, the kit can be stored at 2-8℃ in an anti-pollution environment and stays stable for 14 days.

Specimen preparation

Fresh serum;
-20℃, stable for 7 days.

Assay procedure

1. Reagent preparation

This reagent is liquid and can be used directly.

Main wavelength	340nm	Sample(S)	3 μl
Subwavelength	700nm	Reagent 1	240 μl
Reation temperature	37℃	Reagent 2	60 μl
Cuvette light path	1cm	Reaction type	Two Point End

2. Operation steps

Add to the cuvette:	
Sample (S)	3 μl
R1	240 μl
Mix well, incubate at 37℃ for 5 minutes, 340nm, set zero with a blank tube, and measure the absorbance A1, then add	
R2	60 μl
Mix well, incubate at 37℃for 5 minutes, 340nm, set zero with a blank tube, and measure the absorbance A2, absorbance A2 △A= A2- A1	

Calculations
Calculate and plot ΔA = (A2 – A1) of the calibrators versus assigned concentration values on a linear-linear graph paper. Calculate ΔA optical densities of samples and read values in mg/dl on the reference curve. Samples yielding absorbances above highest calibrator should be retested after further dilution.

Reference interval
0.79～1.52g/L
It is recommended that each laboratory should establish its own reference interval.

Quality control
The control intervals and limits should be adapted to each laboratory's individual requirements. Values obtained should fall within the defined limits. Each laboratory should establish corrective measures to be taken if values fall outside the limits.

Performance characteristics
1. Measuring range
0.2 g/L-3.7g/L
Samples above this concentration should be diluted 1+1 with 0.9% NaCl solution and the result multiplied by 2.
2. Sensitivity
When a control serum (1.5g/L) is used as a sample, the absorbance change should not be between 0.0500 and 0.1400.

Interference
When Hemoglobin≤5g/L, ascorbic acid (vitamin C)≤1000mg/L, triglyceride≤10 mmol/L, heparin lithium≤200U/mL, heparin sodium≤200U/mL, rheumatoid factor≤800IU/mL, no effects on the experimental results are to be found. In order not to affect the test results, please pay special attention to the operation.

Automation
Special adaptations for automatic analyzers can be made on request.

Precautions and warnings
General precautions
For in vitro diagnostic use only.
Diagnosis should only be made after taking clinical symptoms and the results of other tests into consideration.
Exercise the normal precautions required for handling all laboratory reagents.
Disposal of all waste material should be in accordance with local guidelines.

Precautions for measurement
Specimens should be treated as potentially infectious (HIV, Hepatitis B virus, Hepatitis C virus, etc.) and handled with appropriate caution.
Reagents with different lot numbers should not be

interchanged or mixed.
For diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.
Material safety data sheet available for professional user on request.

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