

Cys-C

Cystatin C Test Kit (Rate Scattering Turbidimetric Method)

Instructions for Use

Version: A/0

REF HP-Cys-C-25

Product Name

General Name: Cystatin C Test Kit (Rate Scattering Turbidimetric Method)

Specification

Package Specification

25 Tests/ Kit.

Intended Use

This product is used to determine the content of Cystatin C (CysC) in human serum or plasma.

Test Principle

The antibody of Cystatin C is coated on the latex surface. The CysC in the sample and the antibody become to immune complexes by Latex agglutination reaction. The immune complexes will produce the phenomenon of light scattering which is proportional to the intensity of scattered light and samples of CysC levels. Using specific protein analyzer to measure the intensity of scattered light, the concentration of CysC is determined by comparing the turbidity of samples to the standard concentration.

Component

The Cys-C test kit consists of two reagents R1 and R2, as shown on Figure 1.

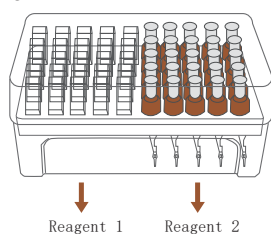


Figure 1

Name	Content	Quantity
Reagent 1 (R1)	Glycine buffer (pH7.4)	0.1mol/L
	Polyethylene glycol 6000	<0.5%
	Sodium azide	0.1%
Reagent 2 (R2)	Phosphate buffer(pH 8.0)	0.1mol/L
	Anti-Cystatin C antibody with latex3.8ml/L	
IC card (optional)	/	1

Do not mix different batches of reagents.

Storage&stability

Store the test kit at 2°C-8°C until the expiration date indicated on the label. The test kit is stable for one year when unopened.

Use up the test kit within one month after opening the package.

Do not freeze the test kit.

Do not mix different lots of the test kit.

Special Instrument Requirements

HP-083/4-I POCT Immunoassay System,
HP-083/4-II POCT Immunoassay System,
HP-AFS/1 Automatic Immunoassay System,
HP-AFS/3 Automatic Immunoassay System.

Specimen type

Plasma (heparin anticoagulation, EDTA anticoagulant) or serum samples; Fasting blood collection and separation of serum as soon as possible; avoid hemolysis; store at 2~4°C for 3 days.

Procedures

HP-083/4-I&HP-083/4-II POCT Immunoassay System

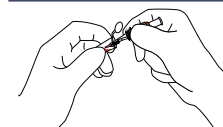
Note:

- Please read user manual of HP-083/4-I and HP-083/4-II before use.
- The analyzer will finish self check after start-up.
- Insert the IC card of Cys-C test kit to let analyzer read the parameter.
- The analyzer calibration can be done with app. It is recommended that analyzer calibration should be done for each new lot of test kit.

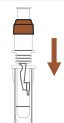
Step 1 Sample Preparation



1a Allow the test kit back to room temperature for 30 minutes before use.



1b Use the R2 with quantitative capillary to collect sample.



1c Insert the R2 into R1.

Note:

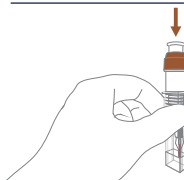
- The parameter is built in the IC card.
- Please insert the corresponding IC card into analyzer to let the analyzer read the parameter before each assay test.
- The capillary of the R2 should be fully filled.

Step 2 Testing



2a Hold the narrow side of R1 and shake from left to right for 12 times to let the sample completely mix

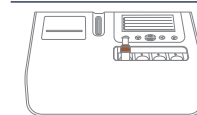
Note:Do not hold the wide sides of R1.



2b Press the piston on R2.



2c Hold the narrow sides of R1 and shake for 3-5 seconds to let R1 and R2 mix well.



2d Insert the R1 into test channel of HP-083/4-II and the analyzer will finish the test and print out results automatically.

HP-AFS/1&HP-AFS/3 Automatic Immunoassay System

Note:

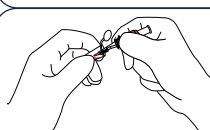
- Please read user manual of HP-AFS/1 and HP-AFS/3 before use.
- The analyzer will finish the self check after start-up.

It is recommend to do analyzer calibration monthly and for each new lot of test kit.

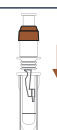
Step 1 Sample Preparation



3a Allow the test kit back to room temperature for 30 minutes before use.



3b Use the R2 with quantitative capillary to collect sample.

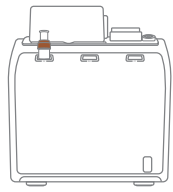


3c Insert the R2 into R1.

Note:

- Please update the standard curve with the barcode on the R1 cuvette if a new lot test kit is to be used.
- The capillary of the R2 should be fully filled.

Step 2 Testing



- 4a** Insert the RI into test channel of analyzer.
- 4b** The analyzer will mix the sample from R2 capillary with RI automatically.
- 4c** The analyzer will mix the R2 and RI automatically.
- 4d** The analyzer will test and print the results automatically.

Calibration

The calibration values for the different lots of the kits are stored on the calibration IC card or the two-dimensional code on the cuvette. Before test the new lot of kits, read the calibration card parameters first. Or the instrument automatically scan the two-dimensional code on the cup to obtain the corresponding calibration curve during testing.

Quality control

3-level calibration system guarantee the results' reliability for each lot of test kits, including the instrument calibration, remote reagent calibration and the third party calibration.

The third party calibration applicable for:

1. The daily indoor quality control test.
2. New lots of reagent.
3. New operator training.
4. The results can not match the clinical symptoms.
5. The first use of the reagent.

If still can not be calibrated, contact the manufacture for further technical support.

Reference Value

Normal reference range: $<1.16\text{mg/L}$

Recommended that each laboratory establish its own reference range.

Interpretation

The test result $\geq 1.16\text{mg/L}$, it indicates that the kidney is damaged. It is recommended to find the cause and take corresponding treatment measures.

Limitations

Hemoglobin $>5\text{g/L}$, triglyceride $>23\text{mmol/L}$, bilirubi $>684\ \mu\text{mol/L}$ will affect the test result.

Performance Characteristics

1. Linearity range: $0.2\text{mg/L} \sim 9\text{mg/L}$
2. Detection limit: $\leq 0.12\text{mg/L}$

The limit of detection means the lowest detectable analyte level that can distinguish the concentration. Calculate based on the minimum standard above the two stan-

dard deviation of the data (Blank table, $1+2\text{SD}$, with-in-run precision, $n=20$).

3. Precision

Test the control material by Cystatin C Test Kit 2 times per day for 20 days ($n=80$) according to EP5-A2 of CLSI.

The data as below:

a.

HP-083/4-11 POCT Immunoassay System					
Sample	Mean mg/L	Within-Run		Between-Run	
		S. D.	%C. V.	S. D.	%C. V.
Control 2	0.73	0.04	5.5	0.04	5.5
Control 3	3.21	0.12	3.7	0.13	4.0

b.

HP-AFS/3 Automatic Immunoassay System					
Sample	Mean mg/L	Within-Run		Between-Run	
		S. D.	%C. V.	S. D.	%C. V.
Control 2	0.71	0.02	2.8	0.03	4.2
Control 3	3.08	0.09	2.9	0.11	3.6

c.

HP-AFS/1 Automatic Immunoassay System					
Sample	Mean mg/L	Within-Run		Between-Run	
		S. D.	%C. V.	S. D.	%C. V.
Control 2	0.72	0.03	4.2	0.04	5.6
Control 3	3.11	0.13	4.2	0.16	5.1

3. Methodology comparison

Compared to Hitachi 7060 Cys-C TIA(x) by test the same serum sample, the relative data as below:

HP-AFS/3 Automatic Immunoassay System				
Site No.	Sample Type	No. of Assays	Regression Line	Coefficient correlation
1	Serum	50	$Y= 1.03X+0.06$	0.98

The concentration of sample is about $0\text{mg/L} \sim 7\text{mg/L}$.

Precautions

⚠ Attention:

Only for in vitro diagnostic.

Only for professional use.

All samples and reactive wastes are treated as sources of infection.

Do not use the kits beyond shelf life.

Do not mix different batches of reagents.

⚠ Warning :

To avoid error, do not forced to take out the cuvette from the device. Follow the device operation manual strictly, If the problem cannot be solved, contact the manufacturer for further technical support.

SYMBOLS USED ON LABELS

Symbol	Usage	Symbol	Usage
	Use-By date		Do not freeze
	Batch code		Biological risks
	Manufacturer		Do Not Reuse
	Temperature Limit		
	Contains sufficient for $<n>$ tests		
	Do not use if package is damaged		
	Consult Instructions for use		
	Keep Away from Sunlight		
	In Vitro Diagnostic Medical device		
	Authorized Representative in the European Community		

References

Michael G, Shlipak MD, Mark J, et al. Cystatin C and mortality in elderly persons with heart failure. Journal of the American College of Cardiology, 2005, 45: 268-271.

Approval Date&Revision Date

Approval Date: Sept 9, 2015

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Revision Date: Apr 1, 2021

Revision Date: Jan 1, 2023