

TOTAL PROTEINS urine Liquid

Pyrogallol Red Method

4 x 50 ml

CL50-200S

INTENDED USE

Kit for colorimetric determination of total proteins in urine and liquor.

CLINICAL MEANING

An increase of proteins in urine indicates pathological conditions such as renal or cardiac disease and thyroid disorders: in normal conditions, proteins are almost entirely retained through glomerular filtration.

PRINCIPLE

In an acid medium, proteins modify the absorption spectrum of the pyrogallol red-molybdate complex. The developed color intensity is directly proportional to the concentration of proteins in the sample.

SAMPLE

Urine and liquor.

Collect a sample of the 24 hour urines.

Stability: 7 days at 2-8°C.

REAGENTS

Only for in Vitro diagnostics.

Liquid mono-reagent, ready to use.

Reagents marked by an asterisk (*) contain dangerous substances.

Package contents	CL50-200S
*REAGENT 1 Buffer pH 2.5; Pyrogallol red 0.06 mmol/L Molybdate sodium 0.04 mmol/L	4 x 50 ml
STANDARD (Std) Human Albumin 1 g/L.	4 ml

STABILITY: if stored away from light at 2-8°C, these reagents are stable up to the expiration date indicated on the label. Keep the bottles closed when not in use.

NECESSARY ITEMS – NOT PROVIDED

Usual laboratory equipment: UV/VIS Spectrophotometer with temperature control; automatic micropipettes; Optical glass cuvettes or, alternatively, disposable ones in optical polystyrene; Saline solution.

MANUAL ASSAY PROCEDURE

Method: endpoint
Wavelength: 600 nm
Optical path: 1 cm
Temperature: 37°C
Reaction time: 10 minutes
Reading: against blank reagent
Sample/Reagent Ratio: 1/50

Bring the reagent to the chosen temperature for the analysis.

Pipette into test tubes:

	Blank reagent	Sample	Standard
Distilled water	20 µl	-	-
Standard	-	20 µl	-
Sample	-	-	20 µl
Reagent 1	1,0 ml	1,0 ml	1,0 ml

Mix and incubate at the chosen temperature for 10 minutes. Then read the absorbance of the standard (AbsStd) and of the sample (AbsC) against blank reagent.

The resulting colour is stable for at least 30 minutes.

CALCULATION

Urine (mg/24h) = (As/Astd) x 1000 x L 24h urine

Liquor (g/L) = (As/Astd)

REFERENCE VALUES

Urine: 50 - 140 mg/24 hours

Liquor: 0,2 - 0,4 g/L

These values are only for reference.

Each laboratory should define its own reference values for this method.

QUALITY CONTROL

All Clinical Chemistry laboratories should implement a quality control program. Control urine of human origin are available for this purpose on request. Contact FAR for information.

PERFORMANCE CHARACTERISTICS

Sensitivity

The method discriminates up to 0,3 mg/dl.

Linearity

The method is linear up to 400 mg/dl.

For higher values, properly dilute the sample with saline solution, repeat the determination and multiply the result by the dilution factor.

Precision

Within run (n=10)	Average [g/dl]	SD	CV %
Sample 1	21,5	0,175	0,81
Sample 2	188,8	1,78	0,94

Within run (n=20)	Average [g/dl]	SD	CV %
Sample 1	25,8	0,33	1,28
Sample 2	169,5	2,95	1,74

Interferences

Up to ≤ 500 mg/dl ascorbic acid does not interfere.

Correlation against a reference method

FAR kit to determine total proteins (Pyrogallol Red method) shows a correlation coefficient of 0.991 in comparison to another kit available on the market.

DISPOSAL

Dispose of reagents and of waste according to local regulations.

WARNINGS AND PRECAUTIONS



WARNING: Reagent 1 may cause damage to organs (H371). Do not inhale vapours (P260). Thoroughly wash hands after use (P264).

REFERENCES

1. Watanabe N., Kamei S., Ohkubo A., Yamanaka M., Ohsawa S., Makino K. and Tokuda K., Clin. Chem. 32, 8, 1551-1554 (1986).

MANUFACTURER

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KEY SYMBOLS

	in Vitro diagnostic medical device
	batch number
	catalogue number
	temperature limits
	use by
	caution
	consult accompanying documents

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