

TOTAL PROTEINS

Colorimetric Method - Biuret
Liquid Reagent ready to use

REF 12200240 R 12X20mL

IVD

PRODUCT CODE: PRO-12D20

INTENDED USE

Quantitative determination of total proteins in serum and plasma.

PRINCIPLE

In an alkaline medium, proteins form a blue-violet complex with Cu (II) ions. The color intensity is proportional to the concentration of total proteins in the sample.

SAMPLE

Serum, plasma with heparin. Do not use hemolyzed samples. Proteins in the sample are stable one week at room temperature (15-25 °C) and one month at 2-8°C.

KIT COMPONENTS

Reagent (A) PT Volume = 100/250	Sodium hydroxide Copper sulphate Potassium iodide Potassium sodium tartrate	190 mmol/l 8 mmol/l 33 mmol/l 50 mmol/l
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Optional: Standard for Total Proteins REF. 8801 o 8801/6

The Standard is not included in the kits.

Standard (B) PT Volume = 5 ml	Total Proteins (Albumin) Sodium azide	Value on label
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The reagents are stable until the expiration date if stored at temperatures indicated on the label and protected from light. Once opened, the reagent are stable 2 months if contamination is avoided.

Keep bottles closed when not in use.

REAGENT PREPARATION

Liquid Reagent ready to use.

PRECAUTIONS AND WARNINGS



Warning

- H319** Causes serious eye irritation.
H315 Causes skin irritation.
H412 Harmful to aquatic life with long lasting effects..
- EUH208** Contains: POTASSIUM IODIDE
May produce an allergic reaction.
- P280** Wear protective gloves / eye protection / face protection.
P264 Wash with water thoroughly after handling.
P273 Avoid release to the environment.
P337+P313 If eye irritation persists: Get medical advice / attention.

Reagents may contain some non-reactive and preservative components. Use the normal precautions required in the laboratory. Dispose of waste according to local laws.

PROCEDURE

Wavelength:	546 nm (530 – 550)		
Lightpath:	1 cm		
Temperature:	37°C		
Reading:	against blank reagent		
Method:	Increasing End Point		
Sample/Reagent:	1/100		
pipette:	blank	Sample	standard
Reagent (A)	300 µl	300 µl	300 µl
water	3 µl		
sample		3 µl	
standard			3 µl

Mix, incubate at 37°C for 10 minutes and read against blank reagent the absorbance of the sample (Ax) and the standard (As).



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RESULTS CALCULATION

Total Proteins g/dl = $A_x/A_s \times 6$ (standard Value)

EXPECTED VALUES

Serum/plasma: 6.6 – 8.3 g/dl

Each laboratory should establish appropriate reference intervals related to its population.

QUALITY CONTROL

You must perform the controls at each kit's use and verify that the values obtained are within the reference range reported in the operating instructions. For this purpose we recommend the use of Sicurobio control sera: ACUTROL 1 (REF. SB-8334) and ACUTROL 2 (REF. SB-8335).

PERFORMANCE

Sensitivity: the sensitivity of the method is: 0.1 g/dl.

Linearity: the method is linear up to 13 g/dl. For higher values, dilute with saline 1:2 the sample and multiply the result by 2.

Precision intra-assay:

	Level 1	Level 2	Level 3
Mean (g/dl)	2.58	5.08	9.75
SD	0.043	0.044	0.110
CV %	1.65	0.87	1.13

Precision inter-assay:

	Level 1	Level 2	Level 3
Mean (g/dl)	2.65	5.36	10.12
SD	0.028	0.052	0.156
CV %	1.04	0.97	1.54

Interferences: bilirubin does not interfere up to 30 mg/dl. A triglycerides concentration exceed 300 mg/dl increases the reading.

Hemoglobin in concentration > 0.3 mg/dl increases the reading.

Correlation against a reference method:

$Y = 1.0068x - 0.0670$ $r = 0.9974$

REFERENCES

1. Vassault, A. et al. Ann. Biol. Clin., 44,686 (1986).
2. Young, D.S., et al., Clin. Chem. 21:1D (1975).
3. Kaplan LA, Pesce AJ, Clinical Chemistry, Mosby Ed. 1989
4. Kingsley G.R., Biol. Chem. 131, 197-200 (1939)