

# TOTAL PROTEINS (PYROGALLOL)

## Colorimetric determination of proteins in liquor and urine

### TEST SUMMARY

In acid solution, the proteins modify absorption spectrum of red-molybdate complex. The colour intensity is directly proportional to the concentration of proteins present in the sample.

### SAMPLES

Urine or liquor.  
Stability: 3 days at 2-8°C.

On particularly turbid and unhemolyzed samples, is suggested to make a sample blank: add 10 µl of sample to 1 ml of physiologic solution and read the absorbance at 600 nm against physiologic solution.

### REAGENTS

Sole Reagent: Succinate buffer 0.05 mmol/l, pH 2.5; sodium dodecylsulphate 0.07 mmol/l; sodium molybdate 0.04 mmol/l; Pyrogallol-Red; 0.06 mmol/l.

Standard: Proteins 100 mg/dl; stabilizers and preservatives.

### MATERIAL REQUIRED BUT NOT SUPPLIED

Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatisation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Physiologic solution.

### PRECAUTIONS

Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow. Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

### REAGENTS PREPARATION

Reagents are ready to use, and are stable until expiration date on label.  
Stored at 2-8°C.  
Pay attention, do not contaminate reagents when vials are open.

### PROCEDURE

Kind of analysis: End point  
Reading Time: 5 minutes  
Colour stability: 30 minutes  
Wavelength: 600 nm (590-610)  
Temperature: R.T.  
Lightpath 1 cm  
Zero: Blank Reagent

REAGENTS	BLANK	STANDARD	SAMPLE
Sole Reagent	1 ml	1 ml	1 ml
Distilled water	10 µl	--	--
Standard	--	10 µl	--
Sample	--	--	10 µl

Mix carefully and after 5 minutes read the absorbances of standard and sample against Blank at 600 nm.

The colour is stable for 30 minutes.

### CALCULATION

#### LIQUOR

$$\text{Proteins mg/dl} = \frac{A (\text{sample})}{A (\text{standard})} \times 100$$

#### URINE

$$\text{Proteins g/24h} = \frac{A (\text{sample})}{A (\text{standard})} \times \text{l/24h}$$

### EXPECTED VALUES

#### PROTEINS in LIQUOR

< 40 mg/dl (0.4 g/l)

#### PROTEINS in URINE

< 0,12 g/24h

Every laboratory should establish own reference intervals in accordance with own population.

### NOTES

- Reaction volumes can be changed proportionally.
- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

### CALIBRATION/ QUALITY CONTROL

It is suggested to perform an internal quality control using control serum with known proteins values.

### TEST PERFORMANCE

#### Precision

The analysis underline CV between 2 and 7%.

#### Linearity

The method is linear up to 500 mg/dl. If the value is exceeded, is suggested to dilute the sample with distilled water and multiply the obtained value for the dilution factor.

#### Sensibility/limit of detection

The method is able to discriminate up to 5 mg/dl. The method's sensibility can be doubling using a connection between sample and reagent same as 1/50; in that case the method's linearity is reduced to 250 mg/dl.

### WASTE DISPOSAL

Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

### PACKAGING

**CODE CC02120 (600 TESTS)**  
Sole Reagent 6 x 100 ml (liquid)  
Standard 1 x 5 ml (liquid)

### REFERENCES

Watanabe N. et al., Clin. Chem., 32 (8): 1551-1554 (1986).

### MANUFACTURER

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### SYMBOLS

-  Only for IVD use  
 Lot of manufacturing  
 Code number  
 Storage temperature interval  
 Expiration date  
 Warning, read enclosed documents  
 Read the directions  
 Biological risk

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