

Total Protein Assay Kit (Colorimetric)

LS-K272-100, -1000 (100, 1000 Tests) • Store at 4°C



Introduction

Total protein concentration can be determined by several Methods. However, protein dye-binding procedures are simple, reliable, rapid, readily automated and are becoming increasingly popular in assessing renal and blood brain barrier functions. This Total Protein Assay Kit is based on an improved pyrogallol red-molybdate protein dye-binding assay. The color intensity at 600nm is directly proportional to the total protein concentration in the sample. This single reagent can be used for the quantitative determination of total protein in urine (proteinuria) and cerebrospinal fluid (blood brain barrier).

Key Features

- Fast and sensitive. Assay takes 10 min. Linear detection range of 5 - 200 mg/dL protein.
- Robust and Reliable. Substances in urine have minimal interference (< 2%).
- Convenient and high-throughput. Homogeneous "mix-incubate-measure" type assay. Can be readily automated on HTS liquid handling systems for processing thousands of samples per day.

Applications

- Determination of total protein in biological samples (e.g. urine, CSF).

Components

Component	K272-100	K272-1000
	100 Tests (96-well) 20 Tests (Cuvette)	1000 Tests (96-well) 200 Tests (Cuvette)
Reagent	20 mL	200 mL
Standard (100 mg/dL)	1 mL	1 mL

Materials Not Supplied

For 96-well plate assays: pipetting devices, clear flat bottom 96-well plates, and plate reader. For cuvette assays: pipetting devices, cuvettes and spectrophotometer capable of reading OD_{600nm}.

Storage

This product is shipped at room temperature. Store kit at 2-8°C. Shelf life of 12 months after receipt.

FOR RESEARCH USE ONLY! Not for use in humans.

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Assay Procedure

Assay Procedure for 96-Well Plate Reader

Prior to assay, bring all reagents to room temperature.

1. Standards and Samples. Pipette 5 μ L dH₂O, 5 μ L provided Protein Standard and 5 μ L Samples into separate wells of a clear flat-bottom 96-well plate.
2. Assay. Add 200 μ L Reagent to all assay wells. Tap plate to mix. Incubate for 10 min. Measure OD_{600nm} on a plate reader.

Assay Procedure for Cuvette

1. Standards and Samples. Pipette 20 μ L dH₂O, 20 μ L provided Protein Standard and 20 μ L Samples into separate cuvettes.
2. Assay. Add 1 mL Reagent to each cuvette. Mix and incubate for 10 min. Measure OD_{600nm} on a spectrophotometer.

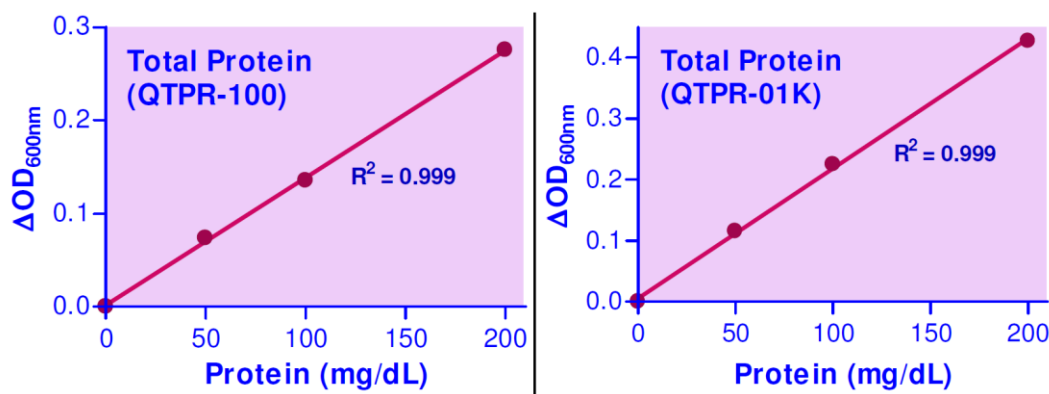
Calculations

Total protein concentration of a Sample is calculated as

$$[\text{Total Protein}] = \frac{OD_{\text{SAMPLE}} - OD_{\text{H}_2\text{O}}}{OD_{\text{STANDARD}} - OD_{\text{H}_2\text{O}}} \times n \times 100 \text{ (mg/dL)}$$

where OD_{SAMPLE}, OD_{STANDARD} and OD_{H₂O} are the optical density values of the Sample, the Standard and the H₂O (blank), respectively. If calculated protein concentration is higher than 200 mg/dL dilute Sample in water and repeat assay. Multiply the results by the dilution factor n .

Sample Data



Left: Standard curve performed on a 96-well plate reader (Spectramax M2);

Right: Standard curve using the cuvette procedure.

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