Total Protein Assay Kit

Product Datasheet | SKU BA0281

Description

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

Specifications

Detection Method	Colorimetric (OD 600 nm)
Detection Range	Linear detection range of 5 to 200 mg/dL protein; for urine samples, 1 to 20 mg/dL protein
Sample Type	Biological samples such as urine and cerebrospinal fluid (CSF)
Species Reactivity	All
Assay Time	10 minutes
Kit Size	1000 Assays
Equipment Required	Microplate reader
Storage	This product is shipped at room temperature. Store kit at 2-8 C.
Shelf Life	Shelf life of 12 months after receipt.
Shipping	Room Temperature

Kit Components

Component	Quantity	Storage
Reagent	200 mL	2-8 C
Standard (100 mg/dL)	1 mL	2-8 C

Ordering Information

Assay Genie Cat. No.	Pack Size
BA0281	1000 Assays

Assay Procedure

Note: This is a sample protocol. Protocols are batch/lot specific - always follow the instructions supplied with your kit.

1. Prior to assay, bring all reagents to room temperature.
2. Standards and Samples: pipette 5 uL dH2O, 5 uL of the provided Protein Standard and 5 uL of samples into separate wells of a clear flat-bottom 96-well plate.
3. Assay: add 200 uL Reagent to all assay wells and tap the plate to mix.
4. Incubate for 10 minutes and measure OD600nm on a plate reader.
5. For urine samples, use an internal standard: dilute the 100 mg/dL Standard to 40 mg/dL, run samples in duplicate transferring 20 uL of each sample into two Sample wells and two Internal Standard wells, add 5 uL dH2O to Sample wells and 5 uL of the 40 mg/dL Standard to the Internal Standard wells, and include a duplicate Blank of 25 uL dH2O.
6. For urine, add 200 uL Reagent to each well, incubate for 10 minutes at room temperature and read the optical density at 600 nm.

7. For the cuvette procedure, pipette 20 uL dH2O, 20 uL Standard and 20 uL samples into separate cuvettes, add 1 mL Reagent, mix, incubate for 10 minutes and measure OD600nm on a spectrophotometer.

Calculation

For standard samples: [Protein] = (ODSAMPLE - ODH2O) / (ODSTANDARD - ODH2O) x 100 x n (mg/dL), where ODSAMPLE, ODSTANDARD and ODH2O are the optical density values of the Sample, the Standard and the H2O blank respectively, and n is the dilution factor. For samples using an internal standard (e.g. urine): [Protein] = (ODSAMPLE - ODBLANK) / (ODSTANDARD - ODSAMPLE) x 10 x n (mg/dL), where ODSAMPLE, ODSTANDARD and ODBLANK are the optical density values of the Sample, Internal Standard and Blank wells respectively, and n is the dilution factor. If the calculated protein concentration is higher than 200 mg/dL, dilute the sample in water, repeat the assay and multiply the result by the dilution factor n.

Notes

- Prior to assay, bring all reagents to room temperature.
- For urine samples, which typically have very low protein concentrations, use a larger sample volume together with an internal standard.
- If the ODSTANDARD - ODSAMPLE for a particular sample is lower than 0.05, dilute the sample with an equal volume of water, repeat the assay and multiply the result by the dilution factor 2.
- Reagents are for research use only. Refer to the MSDS for detailed safety information.