

Product Name: Bradford Reagent

Catalog Number: BPBOI017

Volume: 500 mL

Introduction:

The Bradford Reagent is a colorimetric assay reagent widely used for the quantification of protein concentration in a sample. Based on the binding of Coomassie Brilliant Blue G-250 dye to proteins, the Bradford assay is a rapid and sensitive method that produces a colour change from brown to blue in the presence of proteins. This reagent is ideal for determining protein concentrations in a variety of samples, including cell lysates, tissue homogenates, and purified protein solutions, and is compatible with microplate readers and spectrophotometers.

Product Description:

Bradford Reagent is composed of Coomassie Brilliant Blue G-250 dye, ethanol, and phosphoric acid, formulated to produce a stable, ready-to-use solution. The dye binds primarily to arginine and, to a lesser extent, to histidine, lysine, and other basic and aromatic amino acids, causing a shift in the absorbance maximum from 465 nm to 595 nm. This shift in absorbance correlates with the protein concentration, allowing for accurate quantification by measuring the absorbance at 595 nm using a spectrophotometer or plate reader.

Applications:

BioPioneer's Bradford Reagent is versatile and suitable for a range of applications:

- **Protein Quantification:** Ideal for determining protein concentrations in cell lysates, tissue homogenates, and purified protein solutions.
- **Enzyme Assays:** Useful in preparing samples for enzymatic activity measurements by normalizing protein concentrations.
- **Western Blotting:** Suitable for normalizing protein amounts in samples prior to gel electrophoresis.

Composition:

The Bradford Reagent is formulated with Coomassie Brilliant Blue G-250 dye, ethanol, and phosphoric acid. It is supplied as a ready-to-use solution, eliminating the need for preparation or dilution.

Protocol Overview:

1. **Preparation of Standards and Samples:**
Prepare a series of protein standards (e.g., BSA) and dilute the samples to be measured in the appropriate buffer.
2. **Assay Procedure:**
 - Add 20-200 μ L of each protein standard or sample to a test tube or microplate well.

Technical Data Sheet



- Add 1.0 mL of Bradford Reagent to each tube or 200 μ L to each well.
- Mix gently and incubate at room temperature for 5-10 minutes.

3. Measurement:

Measure the absorbance at 595 nm using a spectrophotometer or microplate reader. Generate a standard curve from the protein standards and use it to determine the protein concentrations in your samples.

***Note:** This protocol provides a basic outline for using the Bradford Reagent. Specific protocols may vary depending on the experimental requirements and sample types. Adjustments may be necessary to optimize the assay for different conditions or applications.

Storage Conditions:

Store the Bradford Reagent at 4°C. Protect from light to prevent degradation of the dye. Ensure the reagent is tightly sealed to prevent contamination and evaporation. The reagent is stable for at least one year when stored as recommended.

Warning and Precautions:

Not intended for medicinal use. Review the Safety Data Sheet (SDS) thoroughly before starting the protocol. Always wear protective gloves, clothing, eye protection, and face protection. Handle with care as the reagent contains ethanol and phosphoric acid, which can be harmful if inhaled, ingested, or in contact with skin or eyes. Adhere to good clinical laboratory practices when handling samples, and follow standard precautions as outlined in established guidelines. For detailed safety procedures, consult the product's Safety Data Sheet.

Safety Information:

The Bradford Reagent is intended solely for laboratory applications and should not be used for pharmaceuticals, household purposes, or other non-laboratory uses. The reagent contains ethanol and phosphoric acid, both of which can cause irritation and harm upon exposure. Always observe proper laboratory safety protocols, including wearing gloves and safety goggles when handling the reagent. For details on hazards and safe handling procedures, please consult the Safety Data Sheet (SDS).

Technical Assistance:

At BioPioneer, we are committed to providing top-notch technical support and ensuring its accessibility. For any technical assistance, please email us at info@biopioneer.in.