

Biotechnology—Sample Skill Scenario

Competitor Scenario 5:

You are working the HOSA Laboratory, where you are purifying a protein from two cultures of genetically engineered strain of yeast. Those two cultures look a lot like milk...

The first step in your analysis is to determine the total protein concentration in the cultures. You will perform a protein quantitation assay using the Bradford method. You will estimate the amount of protein by visual comparison to a set of protein standards (no spectrophotometric quantitation is to be performed).

Protocol details:

In addition to equipment, you are provided the following:

- 2 samples of the cultured yeast proteins, A and B
 - 7 protein standard solutions (0.125, 0.250, 0.500, 0.750, 1.000, 1.500, 2.000 mg/ml)
 - 1x PBS
 - 1x Bradford Reagent
1. Prepare 100 μ l of a 1:50 dilution of each sample in 1x PBS.
 2. For each assay:
 - Use 20 μ l of each sample/standard/blank
 - Add 1.0 ml 1x Bradford Reagent, then mix
 - Use a 5-min room temperature incubation (may verbalize)
 3. Use a visual comparison to estimate the amount of protein in samples A and B.
 4. Report your results to the judge.

Skill to be performed:

- Skill V: Bradford Protein Quantitation Assay
- Time – 20 minutes