



PROTEIN ASSAYS

DC™ Protein Assay

Quick Guide

Standard Assay



200–1,500 µg/ml

Mix reagent S with reagent A in a ratio of 20 µl:1 ml to create desired amount of reagent A'

Pipet standards or samples into test tubes or microplate

100 µl

Add reagent A'

500 µl

Mix

Add reagent B

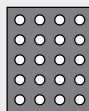
4 ml

Mix

Incubate at room temperature for a minimum of 15 min

Measure absorbance at 750 nm; color will be stable for 1 hr

Microplate Assay



200–1,500 µg/ml

5 µl

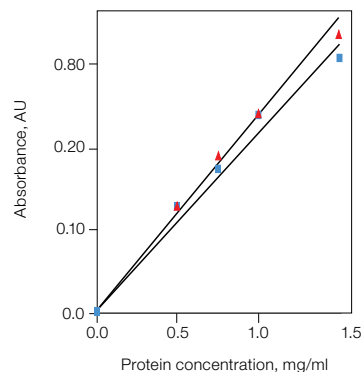
25 µl

200 µl

Setting Up a Standard Curve

Determine protein concentration by plotting the absorbance vs. concentration of known standards. Use the resulting curve to determine the concentration of unknown proteins based on their absorbance.

Note: The best standard to use is a purified sample of your target protein. If this is not available, use Bio-Rad's bovine serum albumin or bovine γ -globulin to make your standard curve.



Standard curve generation using known standards. A typical standard curve for Lowry-based assays, including DC Protein Assays. Bovine serum albumin (■); bovine γ -globulin (▲).

For Best Results

- Run a standard curve with each protein assay
- Run at least 3 replicates of all standards and samples
- Process the sample and standards the same way to ensure that differences in color intensity are due only to differences in protein concentration
- Make sure the sample and standard fall within the same concentration range

Lowry-based*; detergent compatible*

* Adapted from the method of Lowry. Lowry OH et al. (1951). Protein measurement with the Folin phenol reagent. J Biol Chem 193, 265–275.

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Reagent Compatibility

The following reagents were tested for their compatibility with the protein assay. Concentrations represent maximum concentrations for standard assay. ✓ = compatible.

Reagent	Concentration
Amino acids	✓
Ammonium sulfate	0.5 M
Brij-35	1%
C12E8	0.2%
Calcium chloride	0.05 M
CHAPS	1%
CHAPSO	1%
Dithiothreitol (DTT)	0.001 M
EDTA	0.025 M
Guanidine HCl	0.4 M
HCl HCl	0.5 M
Nonidet P-40	2%
Octyl β-glucoside	1%
SDS	10%
Sodium azide	0.05%
Sodium hydroxide	0.5 M
Thesit	1%
Tris , pH 8	0.1 M
Triton X-100	1%
Tween 20	1%
Urea	4 M

Ordering Information

Catalog #	Description
5000111	DC Protein Assay Kit I , includes DC protein assay reagents package and bovine γ-globulin standard
5000112	DC Protein Assay Kit II , includes DC protein assay reagents package and bovine serum albumin standard

Microplate Reader

1681130	iMark™ Microplate Absorbance Reader
2240096	Costar 96-Well Flat-Bottom EIA Plate , 100 plates

Spectrophotometer

1702525	SmartSpec™ Plus Spectrophotometer
1702510	trUView™ Cuvettes , pkg of 50
1702511	trUView Cuvettes , pkg of 100
2239950	Standard Disposable Polystyrene Cuvettes , 3.5 ml, pkg of 100
2239955	Semimicrovolume Disposable Polystyrene Cuvettes , 1.5 ml, pkg of 100
1702502	Standard Cuvette , 1–3.5 ml, quartz
1702503	Semimicrovolume Cuvette , 0.5–1.4 ml, quartz
1702504	Microvolume Cuvette , 200–700 µl, quartz
1702505	Submicrovolume Cuvette , 80–150 µl, quartz

Visit bio-rad.com/proteinassaykits for more information.

Costar is a trademark of Corning Incorporated. Triton is a trademark of Dow Chemical Company. Tween is a trademark of ICI Americas Inc.

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