

Protein research

Liberate yourself with Pierce Dilution-Free protein assays

Pierce Dilution-Free products—easy, fast, and accurate

Introducing Thermo Scientific™ Pierce™ Dilution-Free™ products, comprising both assays and standards that make total protein quantification easy, fast, and accurate. Pierce Dilution-Free products allow you to minimize tedious dilutions and pipetting errors in your protein assays, delivering accurate results while reducing assay setup time by up to 80% (Figure 1).

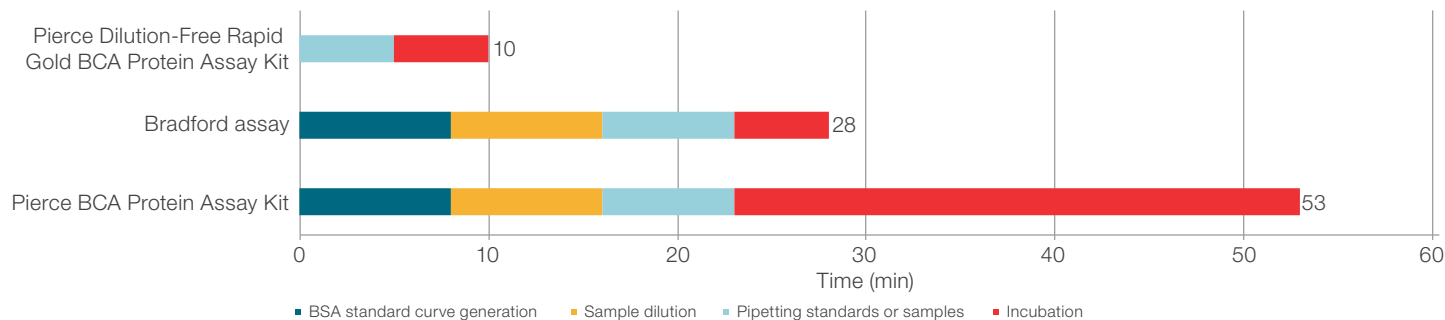


Figure 1. The Thermo Scientific™ Pierce™ Dilution-Free™ Rapid Gold BCA Protein Assay Kit reduces setup time by up to 80% compared to other protein assays. For the comparison, assays were conducted following the manufacturer’s protocols in a microplate format. Five cell lysates and five pure proteins were prepared to give a total of ten samples. Standard curves for the Thermo Scientific™ Pierce™ BCA Protein Assay and Bradford assay were generated by serially diluting a 2 mg/mL bovine serum albumin (BSA) standard. The standard curve for the Pierce Dilution-Free Rapid Gold BCA Assay was generated using Thermo Scientific™ Pierce™ Dilution-Free™ BSA Protein Standards, which are included in the kit and are packaged in a multichannel pipette–friendly tube strip. Four of the ten samples were expected to have a starting concentration of >2 mg/mL, which necessitated a sample dilution step for the BCA and Bradford assays, whereas samples did not require dilution for the Pierce Dilution-Free Rapid Gold BCA Assay. Samples were then mixed with the working reagent from each assay and incubated according to the respective manufacturers’ instructions.

Pierce Dilution-Free Rapid Gold BCA Assay

The Pierce Dilution-Free Rapid Gold BCA Assay has a wide linear dynamic range of 20–10,000 $\mu\text{g/mL}$ (Figure 2), which allows you to add most samples directly to the assay, eliminating the need to dilute your sample to ensure its concentration is within the working range. In addition, the assay only requires a 5-minute, room temperature incubation, resulting in less time and fewer steps compared to other protein assays.

Designed with a focus on accuracy, the Pierce Dilution-Free Rapid Gold BCA Protein Assay delivers accuracy comparable to other Pierce™ BCA assays and twice the accuracy of the Bradford assay (Figure 3), even with a 5x larger dynamic range.

Pierce Dilution-Free BSA Protein Standards

The Pierce Dilution-Free Rapid Gold BCA Assay includes Pierce Dilution-Free BSA Protein Standards, which are a set of seven prediluted standards, uniquely designed for compatibility with multichannel pipettes.

Pierce Dilution-Free standards allow you to eliminate time-consuming and tedious dilutions when generating your standard curve. Pierce Dilution-Free standards are calibrated by direct comparison to purified BSA (fraction V) from the National Institute of Standards and Technology (NIST™) to help ensure accurate generation of standard curves.

These dilution-free standards are now included in the Pierce™ protein assays you know and trust, and are also available separately for use in any BCA or Bradford assay.

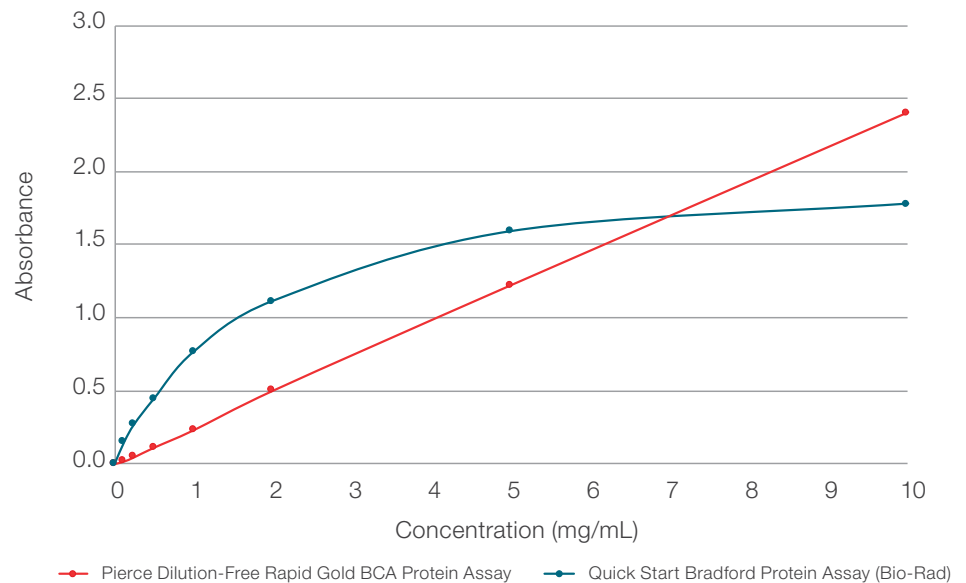


Figure 2. The Pierce Dilution-Free Rapid Gold BCA Protein Assay generates a linear standard curve across a wide dynamic range (0–10 mg/mL). Standard curves were produced for the Pierce Dilution-Free Rapid Gold BCA Protein Assay and the Bio-Rad™ Quick Start™ Bradford Protein Assay with purified BSA in 0.9% saline (0–10 mg/mL). Both assays were conducted using the manufacturers' protocols in microplate format. Absorbance readings were taken on the Thermo Scientific™ Varioskan™ LUX Multimode Microplate Reader (Cat. No. VL0000D0).

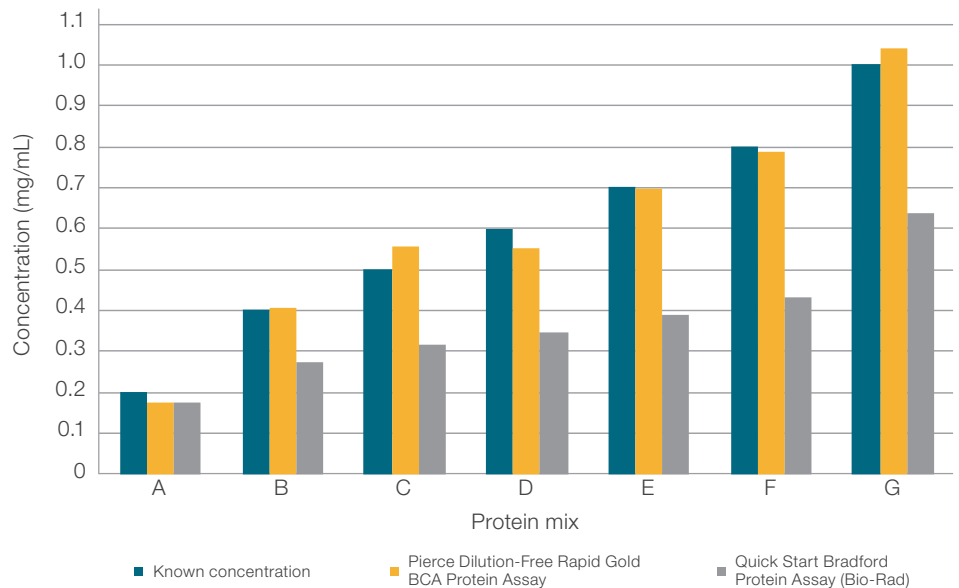





Figure 3. Protein quantification results obtained using the Pierce Dilution-Free Rapid Gold BCA Protein Assay and the Quick Start Bradford Protein Assay, compared to samples of known concentrations. Both assays were conducted in a microplate, according to the respective manufacturers' protocols. For the Bradford assay, 5 μL of sample was added to 250 μL of the Bradford working reagent and incubated at room temperature for 5 minutes. For the Pierce Dilution-Free Rapid Gold BCA Protein Assay, 10 μL of sample was added to 200 μL of the Pierce Dilution-Free Rapid Gold BCA working reagent and incubated at room temperature for 5 minutes. Known concentrations of protein samples were based on manufacturers' indicated concentrations and were confirmed by absorbance at 280 nm.

Which protein assay is right for you?

Selected protein assays are now available with Pierce Dilution-Free BSA Protein Standards. Explore the table below to see which assay best fits your specific needs.

			
	Pierce Bradford Plus Protein Assay Kit with Dilution-Free BSA Protein Standards	Pierce BCA Protein Assay Kit with Dilution-Free BSA Protein Standards	Pierce Dilution-Free Rapid Gold BCA Protein Assay Kit
Cat. No.	A55866	A55864, A55865	A55860, A55861, A55862
Choose when:	Speed and ease of use are important	Accuracy and reproducibility are important	Accuracy and reproducibility are important Speed and ease of use are important
Best-in-class accuracy (low protein-protein variation)		✓	✓
Broad dynamic range (>2 mg/mL wide)			✓
Fast (≤15 minutes)	✓		✓
Dilution-free standard curve preparation	✓	✓	✓
Dilution-free sample preparation			✓
High-throughput (compatible with microplate format)	✓	✓	✓
Compatible with detergents		✓	✓
Compatible with reducing agents	✓		
Automatic concentration calculations with SkanIt Software*	✓	✓	✓

* Thermo Scientific™ SkanIt™ Software is available for the Thermo Scientific™ Multiskan™ FC Microplate Photometer, Thermo Scientific™ Multiskan™ SkyHigh Microplate Spectrophotometer, and Varioskan LUX Multimode Microplate Reader. Learn more at thermofisher.com/platereaders.

Microplate readers

Thermo Scientific™ microplate readers provide flexibility, performance, and ease of use for a variety of microplate assays. Easy-to-use SkanIt Software offers visual workflow setup and effortless data reduction and export. The plate readers have a number of features to help you save time and maximize productivity, including:

- Autocalibration
- Easy export to Microsoft™ Excel™ format
- Automation readiness with robot compatibility
- No limit to the number of computers on which intuitive SkanIt Software can be installed
- Ready-to-use protocols available in our extensive online protocol library

Find the plate reader that suits your workflow needs at thermofisher.com/platereaders



Ordering information

Product name	Quantity	Cat. No.
Pierce Dilution-Free Rapid Gold BCA Protein Assay Kit	500 mL	A55860
	250 mL	A55861
Pierce Dilution-Free Rapid Gold BCA Protein Assay Kit (trial size)	20 mL	A55862
Pierce Dilution-Free BSA Protein Standards, 0.125–2 mg/mL*	2 x 1 mL 8-channel tube strips	A55863
Pierce Dilution-Free BSA Protein Standards, 0.125–10 mg/mL**	2 x 1 mL 8-channel tube strips	A56979
Pierce BCA Protein Assay Kit with Dilution-Free BSA Protein Standards	1 L	A55864
	500 mL	A55865
Pierce Bradford Plus Protein Assay Kit with Dilution-Free BSA Protein Standards	950 mL	A55866
Dilution-Free Tubestrip	Each	A57184
Multiskan FC Microplate Photometer	Each	51119000
Multiskan SkyHigh Microplate Spectrophotometer	Each	A51119500C
Varioskan LUX Multimode Microplate Reader	Each	VL0000D0

* Compatible with protein assays that have a working range of 0–2 mg/mL.

** Compatible with the Pierce Dilution-Free Rapid Gold BCA Protein Assay (working range: 0.02–10 mg/mL).

 Learn more at thermofisher.com/dilutionfree

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