

# *Accurate Protein Quantitation Matters: How ToPA Is Enhancing Cancer and Complex Disease Research*

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***Empowering Precision in Life Science Research***

*Published by ITSI Biosciences, Your Partner in Discovery for Over 20 Years*

When it comes to research in cancer, neurodegeneration, cardiovascular disease, and other complex conditions, one fact remains constant: accurate quantitation of total protein at the start of any experiment is essential.

At ITSI Biosciences, we understand that even the most sophisticated analytical workflows, from Western blots and ELISA to proteomics and biomarker discovery, depend on accurate and reproducible protein assays.

That's why we developed ToPA (Total Protein Assay) reagent a next-generation protein assay based on the standard Bradford that is helping scientists conduct more reliable and reproducible research inexpensively.

## **Why Protein Quantitation is Foundational**

In cancer and complex disease research, most experiments begin with protein extraction from tissues, cells, plasma, or serum. Protein concentrations must be normalized before labeling or digesting for proteomics, running gels or transferring to membranes, conducting antibody-based assays and comparative and quantitative mass spectrometry. Even though it is well known that a skewed total protein input equals unreliable downstream results, many labs still rely on outdated, buffer-sensitive costly protein assay reagents that vary by protein type, are disrupted by many detergents, reducing agents, or salts and require refrigeration or complicated preparation.

## **The ToPA Advantage**

ToPA is ITSI Biosciences' improved version of the classic Bradford reagent. It is engineered to meet the demands of modern life science research without breaking the bank:

<b>Feature</b>	<b>ToPA (Total Protein Assay Reagent)</b>
Sensitivity	Detects low protein levels accurately
Buffer Tolerance	Compatible with detergents, salts, and reducing agents
Convenience	Room temperature stable; includes ready to use standard curve reagent
Versatility	Available in tube-based and 96-well plate formats
Affordability	One of the most cost-effective protein assay reagents available
Validation	Used and trusted by academic and industry labs worldwide

## ***How ToPA Stacks Up with Classic Bradford***

<b>Feature</b>	<b>Classic Bradford Reagent</b>	<b>ToPA (Improved)</b>
Sensitivity	Moderate	High
Cost Efficiency	Standard	Among the most inexpensive options
Buffer Compatibility	Often limited. May interfere	Compatible with most standard buffers
Storage & Shipping	Often refrigerated; less stable at RT	Room-temperature stable. Simpler logistics
Formats Available	Typically only reagent supplied	Includes standard curve reagent, curvets or 96-well microplate kit

## Supporting Better Disease Research

Numerous research laboratories have validated ToPA in critical biomedical studies. In the selected references cited below, ToPA was used by researchers to measure protein concentration in complex biological samples. The method enabled precise normalization prior to electrophoresis (SDS-PAGE, 2D-PAGE, 2D-DIGE), western analysis and mass spectrometry. ToPA improving the reliability of proteomic data which critical to cancer biomarker discovery.

- a) *Cancer Epidemiol Biomarkers Prev*; 19(9) September 2010
- b) *Pharmacology & Pharmacy*, 2014, 5, 996-1005
- c) *Int. J. Mol. Sci.* 2014, 15, 19952-19961; doi:10.3390/ijms151119952
- d) *Cancer Genomics & Proteomics* 13: 13-20 (2016)
- e) *Cancer Genomics & Proteomics* 14: 427-435 (2017), doi:10.21873/cgp.20052
- f) *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0227095> December 30, 2019 24

## Accurate Protein Quantitation = Better Research Outcomes

Cancer and complex disease research demand accuracy at every step, starting with protein input. ToPA helps researchers minimize experimental variability, improve reproducibility of quantitative assays and streamline workflows without compromising quality. Whether you're working on tumor biopsies, plasma proteomics, or cell line models, ToPA provides the precision you need at a price that supports high-throughput screening and routine lab use.

### What's in the ToPA Kit?

Each ToPA kit includes:

- ToPA reagent (ready-to-use)
- Pre-made ready-to-use standard curve reagent
- Simple protocol
- 96-well plate format for high-throughput labs (optional)

No refrigeration. No special handling. No surprises.

### Ready to Improve Your Protein Assays?

Whether you're launching a new cancer biomarker project or standardizing protocols across multiple studies, ToPA is the smart choice.

### ITSIBio Tip of the Month

Always normalize your protein samples using a validated assay like ToPA before proceeding to downstream analysis. Remember, small errors at the start can lead to big problems at the end.

ITSIBio News is published monthly by ITSI Biosciences, your trusted source for high-quality, easy-to-use reagents and bioanalytical services. We help researchers do more, accurately, affordably, and efficiently.

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