ITSI BIOSCIENCES
FAST, ACCURATE, EASY- TO-USE

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Innovative Tools Supporting Tomorrow's Breakthroughs

Why Using the Right Protocol and Buffers for Protein Isolation is Critical in Biomedical Research

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Empowering Precision in Life Science Research
Published by ITSI Biosciences, Your Partner in Discovery for Over 20 Years

In the complex world of biomedical research, accuracy and reproducibility are everything. Whether studying disease mechanisms, identifying biomarkers, or developing new therapies, the reliability of protein data hinges on one crucial step: proper protein isolation. At ITSI Biosciences, with over 20 years of experience supporting life science discovery, we've seen firsthand how improper protein extraction methods can derail even the most well-designed experiments. This month, we're highlighting why choosing the right protein isolation protocol, buffer system and kit is essential, and how our Total Protein Isolation (ToPI) kits help researchers get it right the first-time cost effectively.

Not All Samples Are the Same; And Neither Are Isolation Needs

Protein isolation isn't a one-size-fits-all process. The biochemical composition of tissues, blood, urine, plants, saliva or FFPE (formalin-fixed, paraffin-embedded) samples varies widely. Using a generic buffer or inappropriate protocol can result in:

- Protein degradation or loss
- Inaccurate total protein content quantification
- Changes in protein post-translational modifications
- False conclusions and
- Wasted resources

Ex-vivo changes, those that occur after sample collection, are especially problematic. Without proper buffers and inhibitors, enzymes such as proteases and phosphatases can alter protein profiles within minutes, leading to irreproducible or misleading results.

What Makes an Ideal Protein Isolation Protocol?

A well-designed protocol and kit should:

a) Be tailored to the sample type
b) Include buffers that stabilize proteins and inhibit degradation
c) Be simple to use with minimal steps to reduce hands-on time
d) Maintain native protein structure and modifications
e) Ensure consistency from sample to sample and lab to lab
f) Be cost effective

At ITSI Biosciences, our ToPI (Total Protein Isolation) kits are specifically formulated to meet these criteria. Optimized for different sample types, from cells and tissues to challenging FFPE specimens, each ToPI kit

comes with a ready-to-use protocol that protects protein integrity during and after isolation.

Why Researchers Trust ToPI Kits

- Room-temperature stability: easy and inexpensive to store and ship
- High yield and purity: reproducible results, even from difficult samples
- Application-ready extracts: compatible with downstream proteomics, Western blotting, ELISA, and more
- Time-tested and peer-reviewed: trusted by researchers worldwide for over two decades
- 15% - 40% less expensive compared to comparable products from other vendors and home brew.

Takeaway: Your Data Is Only as Good as Your Isolation Method

When it comes to protein research, starting with the right isolation protocol isn't just good practice, it's essential science. By choosing high-quality reagents and tailored protocols like those in the ToPI line, you prevent experimental artifacts, protect valuable samples, and ensure your conclusions reflect biology—not buffer error.

Ready to Upgrade Your Protein Isolation?

Explore our full line of ToPI kits at www.itsibio.com or reach out to our technical team (+1-814-262-7331) for help selecting the right product for your research.

Stay accurate. Stay innovative. Stay ITSIBio.

ITSIBio News is published monthly by ITSI Biosciences to educate and highlight how our products and services support life science research and development.

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