

# Quick Tips for an Easy Protein Extraction

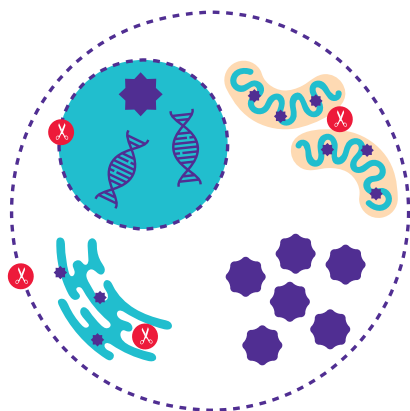


## 1 LYSE IT! Cell Lysis Reagents

Different cell types require specialized lysis reagents. Choosing a cell type-specific lysis buffer results in more efficient protein extraction.

For mammalian cells:  
**CellLytic™ M (C2978)**

For bacterial cells:  
**BugBuster® Protein Extraction Reagent (70584-M)**

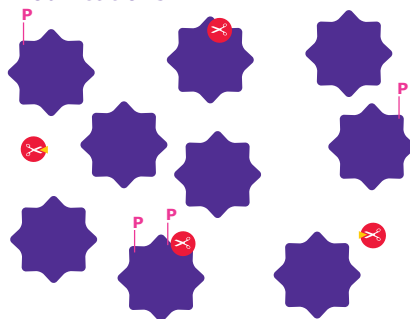


**TIP:** For 1 mg of protein, lyse ~100 mg tissue or ~20 million cells.

For more information visit:  
[SigmaAldrich.com/lysis](https://SigmaAldrich.com/lysis)

## 2 PROTECT IT! Protease Inhibitors

After cell lysis, endogenous proteases and phosphatases can change proteins. Using an inhibitor cocktail will protect proteins from degradation and modifications.



For mammalian cells and general use:  
**ReadyShield® Protease Inhibitor Cocktail (PIC0002)**

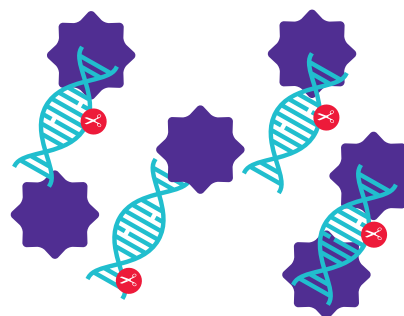
For combined protection:  
**ReadyShield® Protease and Phosphatase Inhibitor Cocktail (PPC2020)**

**TIP:** Add inhibitor cocktail immediately after cell lysis.

For more information visit:  
[SigmaAldrich.com/readysieldfaq](https://SigmaAldrich.com/readysieldfaq)

## 3 ENHANCE IT! Nucleases

After lysis, the sample can be thick and difficult to handle. Nucleases chop up DNA and RNA in your sample to reduce viscosity.



For DNA and RNA digestion:  
**Benzonase® Nuclease (71206)**

**TIP:** A viscous protein sample is harder to pipette accurately.

For more information visit:  
[SigmaAldrich.com/benzonasefaq](https://SigmaAldrich.com/benzonasefaq)

## 4 USE IT! Protein Assays

Different amounts of protein sample are needed, depending on the final analysis method. Below is a quick guide to the µg of protein needed per final assay.

**TIP:**  
Western or Immunoblotting  
= ~1-25 µg protein

ELISA or Diagnostic Assay  
= ~50-100 µg protein

Mass Spectrometry  
= ~5-10 µg protein

2D Gel Electrophoresis  
= ~10-100 µg protein

For more information visit:  
[SigmaAldrich.com/proteinbio](https://SigmaAldrich.com/proteinbio)

