

Discovery Starts With Sample Preparation™

The SHREDDER SG3

Gentle, Rapid, and Effective Disruption of Tissues and Organisms for the Extraction of Mitochondria, DNA, RNA, Protein, Lipid, and Small Molecules

PBI Shredder Systems are low shear mechanical devices for gentle, rapid and safe disruption of tissues and organisms. Both *The PCT Shredder* and *The SHREDDER SG3* can provide effective extraction of DNA, RNA, proteins, mitochondria, lipids and small molecules from tissues and organisms when used with Shredder Tubes and your choice of buffers.

Both systems use a variety of Shredder Tubes to directly and rapidly grind solid samples providing easy handling and reducing sample contamination. Additional extraction efficiency can be achieved if this process is combined with pressure cycling technology (PCT).



The SHREDDER SG3



Various Shredder Tube Parts

The SHREDDER SG3 features a three position force setting lever (FSL). Otherwise it is similar in function to PBI's *The PCT Shredder*. The FSL enables the operator to select and apply reproducible force to the sample during the shredding process. Further, the FSL eliminates the need for the operator to exert force for long periods when processing one or more samples.

Shredder Tubes are available with or without a metal insert to disrupt tough structures such as fibrous muscle tissue, plants, arthropod exoskeletons or the cuticle of nematodes. Both configurations are available as PCT Shredder PULSE Tubes for use with high pressure processing, or as Shredder Tubes for use only at ambient pressure.

The Shredder SG3 and Shredder Tubes are compatible with a wide variety of sample preparation kits and reagents as well as kits sold by PBI for specialized sample preparation applications to rapidly achieve excellent yields of high quality nucleic acids, proteins, lipids, organelles and small molecules.

Features & Benefits of *The SHREDDER SG3*:

- Inexpensive, portable, and lightweight
- Low shear mechanical homogenization
- Long lasting lithium rechargeable batteries
- Heavy duty robust driver
- Three position lever for setting reproducible force
- Gentle enough for isolating intact, functional mitochondria
- Powerful enough to rapidly break apart difficult samples
- Standardize preparations of high quality nucleic acids, proteins, lipids, and small molecules

Specifications of *The SHREDDER SG3 Kit*

Kit Components	Part Numbers
One Heavy Duty High Torque SG3 Driver with a Convertible Handle	22-3022
One SG3 Base with 3 position Force Setting Lever (FSL)	22-3021
One Battery Charger	22-3023-001
Two Lithium Ion Batteries	22-3023-002
One PULSE Tube Tool	110639
One Assortment Package of Shredder PULSE Tubes	FT500-SV

Specifications of Tubes for Use with The Shredder System*

Tube Type	Color	Metal Disk	PCT Compatible
PCT Shredder PULSE Tubes FT500-S	White	No	Yes
PCT Shredder PULSE Tubes FT500-MS	White	Yes	Yes
Shredder Tubes FT500-PS	Coral	No	No
Shredder Tubes FT500-PMS	Coral	Yes	No

* For Research Use Only

- Specifications may be changed without prior notification
- Consult specific applications for sample size and volume requirements
- Autoclave recommended method: Standard liquid setting

Relevant Literature:

1. *The SHREDDER SG3 User Manual*
2. [Shredder Application Notes](http://www.pressurebiosciences.com/pub/application-notes-preparations.html) (<http://www.pressurebiosciences.com/pub/application-notes-preparations.html>)

Ordering Information

To order *The SHREDDER SG3* or Shredder PULSE Tubes and other accessories, please contact your local Pressure BioSciences Sales Representative. Or, please visit: <http://www.pressurebiosciences.com>

