

POWTEQ®



High Throughput Tissue Mill GT50

◇ High Throughput Tissue Mill GT50

GT50 is a mill specially designed for rapid and high throughput pre-treatment of biological samples.

By using different adapters, up to 96 samples can be quickly processed simultaneously by ordinary centrifuge or cryogenic vials. Different kinds of biological samples (plant and animal tissues/organs, bacteria, yeasts, fungi, spores, paleontological specimens, etc.) can be crushed by using of proper reagents, from which original DNA, RNA and protein can be easily extracted and purified.



○ Application

Application Field: Molecular mark assisted breeding, genomics, systems biology and nucleic acid extraction from plant tissues in molecular evolution, transgenic research and other biochemical research

Typical samples: plant roots, stems, leaves, flowers, fruits, seeds and animal tissues; Specially for the extraction of nucleic acid, protein and other components in plant tissues. Yeast, animal cells, bacterial cells, etc.

- Rapid multi-sample preparation by PCR (Polymerase chain reaction)
- Rapid Cell lysis and tissue homogenization for nucleic acid, RNA/DNA and protein extraction.
- Lysis of yeast and bacterial cells
- Pesticide/pesticide analysis (analysis of pesticide residues or toxic substance in food sample with LC/MS)
- QuEChERS Method (Pesticide, antibiotic, drug extraction)
- Active pharmaceutical ingredients Extraction (APIs)
- Food Safety (Contamination, adulteration, food traceability)
- Bio-fuel

○ Working Principle

Samples are placed into the centrifuge tube. The grinding balls will hit and rub against the samples by up and down vertical shaking, with the reagent that cleaves the cell wall and cell membrane while protecting the nucleic acid protein, to achieve the extraction of the target DNA, RNA and protein. The disruption results are reproducible and there is no cross contamination between samples. A single sample can be completely disrupted and homogenized within 1-2 minutes.



○ Advantages

- Vertical up and down grinding design;
- Suitable for dry, wet and cryogenic grinding;
- Low-speed crushing function ensures effective sample yield, especially for genome preparation;
- 5" LED touch screen, easy to control the program and set the parameters;
- Program control and parameter storage function, enable to set intermittent, stop and total running time;
- New-type brushless motor, convenient for maintenance ;
- Suitable for centrifuge and cryogenic vials of 2ml/5ml/50ml. The samples are totally separated with each other to avoid cross contamination.



○ Technical Specifications

Time setting	00:01-99:59(min/s)
Frequency	15-35Hz, oscillation 900-1800 times/min
Clamp Movement	34mm
Running Mode	Vertical
Certification Standard	CE