VIA Extractor™ tissue disaggregator

Gentle, efficient tissue disaggregation for optimized cell viability and yield

Semi-automated system for consistent, rapid disaggregation of solid tissue, including tumors, into viable single cells

The VIA Extractor™* tissue disaggregator dissociates solid tissue into viable single cells (Fig 1). For use in high-throughput omics and flow cytometry research, the closed system uses mild processing to optimize yield and preserve content relative to the parent sample.

- Mild processing optimizes cell viability and yield and preserves content relative to the parent sample
- Standardized, automated process reduces sample-to-sample variation
- Disaggregates solid tissue to single cell suspension in as little as ten minutes
- Adjust the processing speed, temperature and time settings using the VIA Freeze™ Uno controlled-rate freezer to optimize results dependent on sample type and size
- Process up to three samples in parallel in single-use pouches, minimizing the risk of contamination

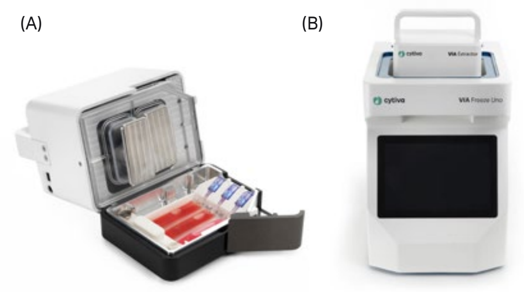

Fig 1. (A) The Omics pouch placed into the VIA Extractor tissue disaggregator and held in place with the Omics clamp, and (B) the VIA Extractor tissue disaggregator placed into the top of the VIA Freeze Uno controlled-rate freezer.

Comparative performance of the VIA Extractor tissue disaggregator with manual tissue dissociation

Traditionally, solid biological tissues are dissociated into single cell suspension by dissection of the tissue into small pieces (2–4 mm) using scissors and scalpels, followed by long incubation periods in enzyme cocktails to release the cells. This technique is time consuming, labor intensive and less reproducible. Tissue dissociation was compared using three independent mouse organs, with half the material used for each technique. Following tissue dissociation, all cell suspensions were filtered through an appropriately sized cell strainer, pelleted by centrifugation at 300 xg and subject to red blood cell lysis using the Red Blood Cell Lysis Solution (Miltenyi Biotec). Following cell resuspensions, cells were counted using the NucleoCounter NC-200 automated cell counter. The data described shows that cell viability and yield are significantly better using the VIA Extractor tissue disaggregator with less debris and in a very short time period (Fig 2).

* For research use only (RUO). Not for diagnostic use

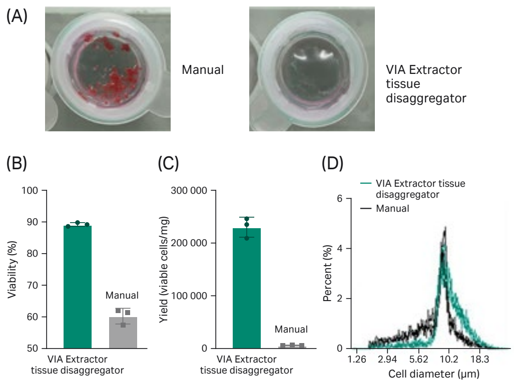

Fig 2. Three independent wild type mouse lungs were halved and dissociated using either the VIA Extractor tissue disaggregator or traditional mincing using scalpel blades and scissors (manual). Cell suspensions were prepared by filtering through 70 µm cell strainers. (A) The VIA Extractor tissue disaggregator shows more complete digestion as indicated by fewer particulates remaining on the surface. Panels B, C, and D show data derived from the automated cell counter. (B) Average percentage cell viability. (C) Average yield of viable cells per mg of input tissue for dissociation. Dots show individual values. Bar shows mean of three samples. Error bars show standard deviation. (D) Histogram showing the diameter of individual cells for each sample. It can be seen that there is less debris from the VIA Extractor tissue disaggregator method as indicated by lower signal of particles below 8 µm.

Ordering information

Product	Pack size	Product code
Omics bundle (VIA Freeze Uno controlled-rate freezer, VIA Extractor tissue disaggregator, and Omics clamp)	1 of each item	30057808
Omics clamp	1	30057714
Omics pouch, 3-sample	Pack of 10	30057716

CY50881-13Feb25-FL

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