



Miltenyi Biotec

MACS[®] Sample Preparation

Start smart with innovative solutions for your samples



Start smart

The success of your experiment starts at the very beginning. Our smart sample preparation solutions support you with optimized protocols for the dissociation of virtually any tissue.

Obtain single-nucleus and single-cell suspensions or homogeneous tissue lysates for your downstream application and standardize your laboratory workflow right from the start.

Keep it fresh – store tissues and cells in their primary state

MACS® Tissue Storage Solution and MACS Cell Storage Solution provide optimal storage of fresh organs, tissues, or single cells for up to 72 hours without cell activation or induction of apoptosis. For cryopreservation of primary cells or solid tissues, MACS Freezing Solution ensures high viability and recovery after thawing.

Be gentle – get viable cells with preserved epitopes and intact nuclei

gentleMACS™ Technology provides viable cells and intact nuclei from solid tissues in a fast, standardized, and operator-independent manner that preserves cellular composition and surface epitopes.

Make it easy – perform *ex vivo* perfusion effortlessly

gentleMACS Perfusion Technology ensures efficient and consistent perfusion of resected organs, delivering high cell yield and viability of fragile cell types.

Clean it – remove cell aggregates and other unwanted material

Innovative cell strainers and cleaning reagents help you prepare your sample for your downstream application by removing cell aggregates, debris, or other unwanted material, such as myelin, dead cells, erythrocytes, or organelles.





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Convenient tissue and cell storage

Whether you need short- or long-term storage for cells and tissue, our storage and freezing solutions ensure excellent preservation of the viability and composition of your primary cell suspensions or fresh tissue samples.

MACS Tissue Storage Solution

The MACS Tissue Storage Solution allows for optimized storage of fresh organ and tissue samples to gain flexibility and to preserve the primary state for at least 72 hours. It has been tested successfully for a wide range of human and rodent tissues including tumor, skin, heart, spleen, brain, and skeletal muscle.

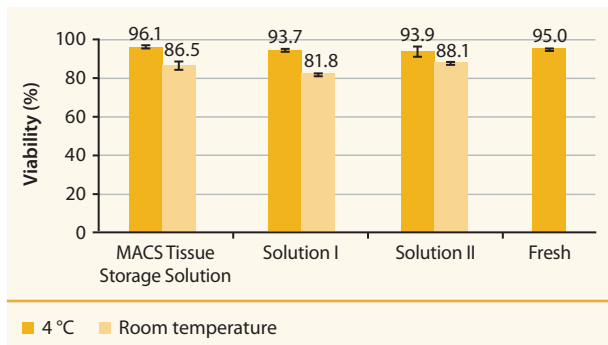


Figure 1: Comparison of mouse spleen stored in MACS Tissue Storage Solution and two GMP-grade organ transplant solutions from other manufacturers.

MACS Cell Storage Solution

This solution is the best option for short-term storage and transport of primary cells. It has been thoroughly validated with various types of primary cell suspensions from different tissues, human lysed blood, peripheral blood mononuclear cells (PBMCs), isolated human T cells, and monocytes.

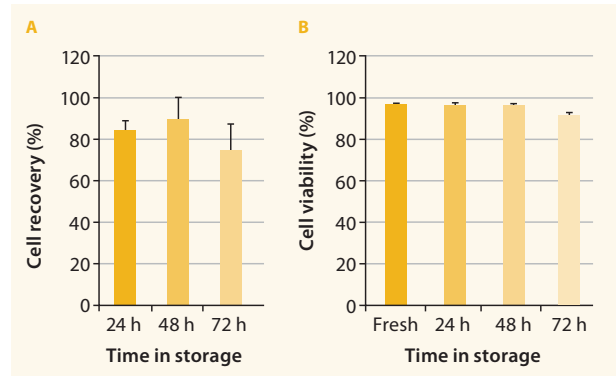


Figure 2: Cell recovery and viability of lysed blood samples stored in MACS Cell Storage Solution at 2–8 °C. Cells were stored at a concentration of 1×10^6 cells per mL of MACS Cell Storage Solution.

MACS Freezing Solution

This freezing solution allows for the cryopreservation of primary cells and solid tissue samples under serum-free conditions, ensuring excellent cell and tissue viability after thawing. It has been validated with a variety of cell types and tissues, including human and mouse tumor samples, PBMCs, and cells from dissociated solid tissues such as tumors.

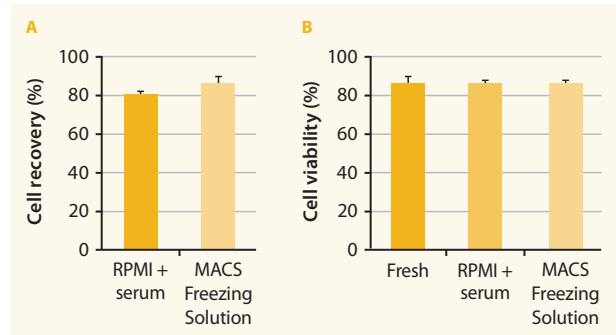


Figure 3: Cell recovery and viability of CT26 mouse tumor cell suspensions cryopreserved in liquid nitrogen for two weeks using either RPMI containing 20% FCS and 10% DMSO or MACS Freezing Solution.

Find the right product for your cell and tissue storage needs

Starting material	Short-term storage (up to 72 h)	Long-term storage (more than 72 h)
Fresh solid tissues	MACS Tissue Storage Solution	MACS Freezing Solution
Primary cells from blood	MACS Cell Storage Solution	MACS Freezing Solution



LEARN MORE 



Choose the right solution for your experiment. Use this page to get started:

► [miltenyibiotec.com/cell-and-tissue-storage](https://www.miltenyibiotec.com/cell-and-tissue-storage)

gentleMACS Technology

Developed for the most reliable results

gentleMACS Technology enables automated tissue dissociation, homogenization, or organ perfusion in a closed and sterile system to generate intact nuclei, tissue lysates, or single-cell suspensions with high viability and preserved surface epitopes.

The unique combination of alternating incubation times of enzymatic digestion and mechanical disruption provides an excellent balance between

high cell yields, viability, and epitope preservation. This makes the gentleMACS Technology the most comprehensive, gentle, and convenient automated method for standardized, reliable, and reproducible tissue preparation.

With thousands of citations in scientific publications, it is the foremost trusted tissue dissociator in the field.



gentleMACS Dissociators

Automated tissue dissociation for maximal reproducibility

gentleMACS Octo Dissociator with Heaters

The gentleMACS Octo Dissociator with Heaters is a benchtop instrument that provides everything you need to homogenize or dissociate tissue to reliably obtain tissue lysates, viable single cells, or intact nuclei from virtually any tissue for reproducible results. The intuitive software and user interface of this automated tissue dissociator allows you to easily select from more than 80 predefined tissue-specific programs, pause/resume your experiment, or manage different user preferences.

Automation with a great level of flexibility

Regardless of the tissue type, the gentleMACS Octo Dissociator with Heaters standardizes the automated process of sample preparation. It features heating (37 °C), passive cooling (2–8 °C), or can perform at room temperature.

The instrument can be equipped with specialized consumables for different applications: gentleMACS C Tubes for tissue dissociation and downstream cellular assays, gentleMACS M Tubes for homogenization and molecular analysis, and gentleMACS Perfusers enable automated *ex vivo* perfusion from resected organs.

Easy to use

Simply place samples and reagents into gentleMACS Tubes, select the desired program, and let the gentleMACS Octo Dissociator with Heaters perform the dissociation or homogenization.

High-throughput and independent sample processing

The gentleMACS Octo Dissociator with Heaters can process up to eight samples either in parallel or independently. Add samples at any time, even if other dissociation programs are in progress.

Customize your dissociation program

In addition to over 80 predefined programs, you can create your own programs for your specific samples and applications to dissociate virtually any tissue type.

gentleMACS Dissociator

The gentleMACS Dissociator offers reliable tissue dissociation and homogenization with predefined programs and parallel sample processing. The instrument can process two samples in parallel with over 50 predefined programs.

MACSmix™ Tube Rotator

The MACSmix Tube Rotator is a helpful tool for the enzymatic digestion steps during tissue dissociation with a gentleMACS Dissociator. It is a versatile instrument powered by rechargeable batteries and suitable for a temperature range of 2 °C to 42 °C and can be placed in a refrigerator or incubator.

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Get to know our gentleMACS Octo Dissociator with Heaters in detail:

► miltenyibiotec.com/gentlemacs-instrument

LEARN MORE



Start smart and automate your sample preparation by requesting a quote or demo today:

► miltenyibiotec.com/start-smart

gentleMACS Tubes

The gentleMACS Tube is a central component of gentleMACS Technology. Each element of the tube has been engineered to ensure the highest performance in the dissociation or homogenization of your tissue samples. The cap has a rotor-stator-system to apply gentle mechanical shearing to tissue.



Choose the right tube for your experiments:

► miltenyibiotec.com/gentlemacs-tubes

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Dedicated tubes for specific applications:

- **Tissue dissociation:** Use the purple-cap **C Tube** for gentle tissue disruption to get viable single-cell suspensions for cell separation, cell culture, and cell analysis experiments.
- **Tissue homogenization:** Choose the orange-cap **M Tube** to achieve thorough sample homogenization for subsequent molecular and microbiology analysis.



Spacers – make the difference

The stator teeth of C Tubes are equipped with spacers that define a specific distance between the rotor and the stator. This ensures efficient extraction of viable single cells from tissues.

M Tubes lack spacers, enabling them to perform tissue homogenization for applications in molecular and microbiology.



Tube enclosure – functional design

Our patented enclosure design directs the sample flow towards the stator to ensure thorough dissociation and homogenization.



Rotor – crafted precision

A rotating paddle draws the sample into the stator for processing. It provides the exact amount of shear force necessary to extract intact cells or molecules from tissues.

Stator – exact control

At the fixed stator site, the sample is processed through mechanical shearing. M Tubes lyse the cells by grinding the tissue. Within C Tubes, a defined gap between the rotor and stator keeps cells intact, producing viable single-cell suspensions.

C Tube

M Tube

MACS Tissue Dissociation Kits

MACS Tissue Dissociation Kits offer a broad variety of ready-to-use kits, including high activity enzymes and optimized buffer solutions, which allow for gentle and effective dissociation of human and rodent tissues.

Tissue-specific enzyme composition

The convenient tissue-specific kit format provides predefined enzyme solutions compiled and titrated to match individual tissue needs for optimal results.

Lot-to-lot consistency

Efficacy and epitope sensitivity tests are part of our routine enzyme quality control to provide consistent performance and reproducibility for your experiments.


Epitope preservation


Highly purified enzymes with specific activities keep cellular surface markers intact while effectively degrading extracellular matrices and adhesion molecules during tissue dissociation. We have put together epitope preservation lists which consist of over 200 epitopes that have been tested for sensitivity after enzymatic digestion with our Tumor Dissociation Kits or Multi Tissue Dissociation Kits.

GET OUR LISTS 



Download our epitope preservation lists:
[▶ miltenyibiotec.com/epitope-lists](https://miltenyibiotec.com/epitope-lists)

VIDEO 



Watch all our video protocols here:
[▶ miltenyibiotec.com/tissue-dissociation-kits-video](https://miltenyibiotec.com/tissue-dissociation-kits-video)

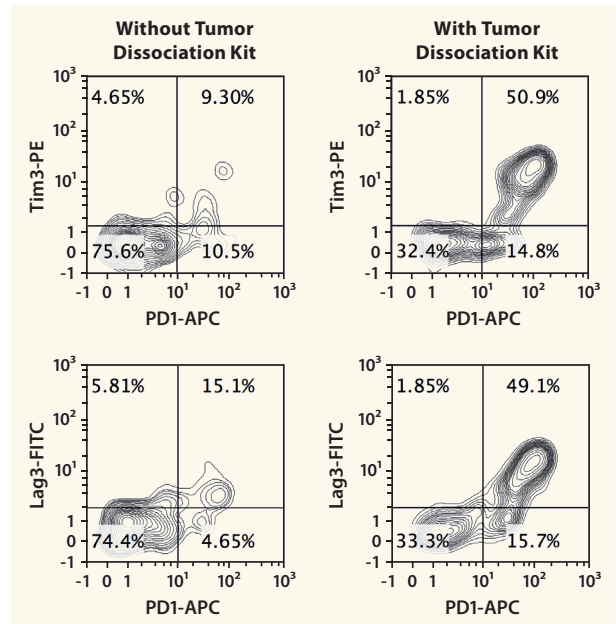


Figure 4: Efficient recovery of CD8⁺ TILs from B16-F10 tumors with the Tumor Tissue Dissociation Kit. B16-F10 mouse tumors were collected and dissociated using the gentleMACS Octo Dissociator with Heaters in the presence or absence of the Tumor Dissociation Kit, mouse enzymes. Cells were subsequently labeled with REAfinity™ Antibodies and analyzed using a MACSQuant® Analyzer.

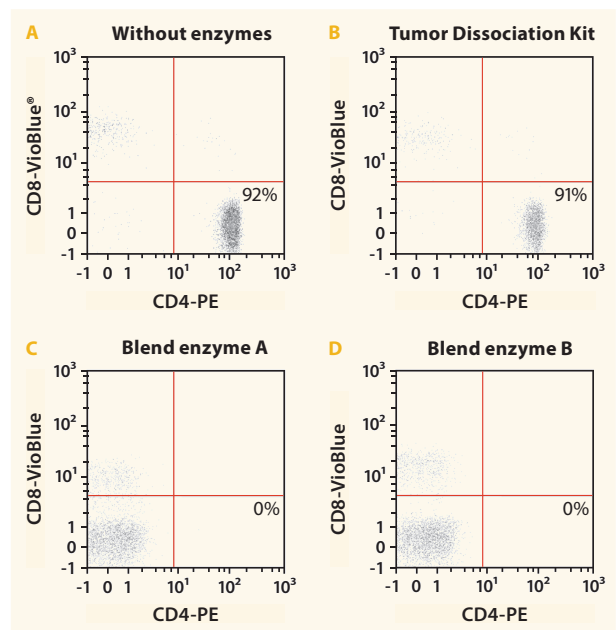


Figure 5: Comparison of epitope preservation after incubation of peripheral mononuclear cells (PBMC) with the respective enzymes. (A) Control: no enzymes added, (B) enzyme cocktail of the Tumor Dissociation Kit, human, from Miltenyi Biotec, (C) alternative blend enzyme A, (D) alternative blend enzyme B.

Tissue-specific enzyme kits

For optimal dissociation of different tissues into single-cell suspensions we have developed more than 20 different tissue-specific enzyme kits to be used in combination with over 80 gentleMACS Programs.

Many programs and kits have been optimized to obtain high yields of specific cell populations, including rodent neurons, neonatal rodent cardiomyocytes, tumor cells, immune cells, and stem cells.

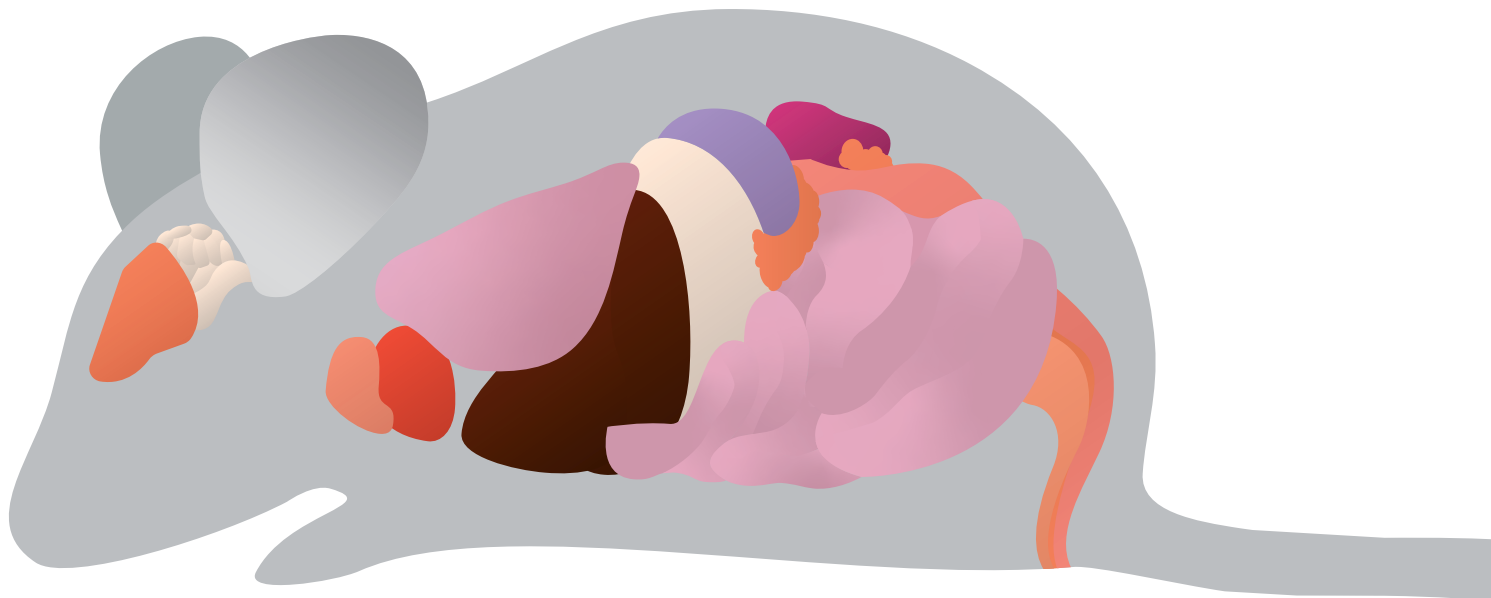
Our Multi Tissue Dissociation Kits have been developed for the gentle and effective isolation of different cell types from various tissues, such as kidney, prostate, mouse embryo, and cell monolayers.

Mouse tissues

- Tumor
- Neonatal brain (<P7)
- Adult brain (>P7)
- Neurospheres
- Lamina propria (Colon)
- Lung
- Spleen
- Neonatal heart
- Liver
- Skeletal muscle
- Epidermis
- Adipose tissue
- Prostate
- Embryoid bodies
- Formalin-fixed paraffin-embedded (FFPE) tissue

Human tissues

- Tumor
- Whole skin
- Epidermis
- Umbilical cord
- Embryoid bodies
- Kidney
- FFPE tissue



According to customers' publications, certain kits for mouse tissues also work for human tissues. Contact our technical support team to find out more about which kit is right for your tissue.

gentleMACS Perfusion Technology

Effortless *ex vivo* perfusion of resected rodent organs

To make your lab life less complicated, we have developed the cutting-edge gentleMACS Perfusion Technology, which allows up to eight perfusions to be performed in parallel on the gentleMACS Octo Dissociator with Heaters. Perfusion has never been easier with our technology offering fast, reliable, and reproducible results without extensive training.

This perfusion technology enables you to extract primary, highly viable, fragile cell types like hepatocytes or cardiomyocytes from *ex vivo* resected rodent organs in a convenient, easy, and automated way. After extraction, viable cells can be cultivated or used for downstream analysis, such as genetic and proteomic analysis or for functional assays.



Rodent liver perfusion

The Liver Perfusion Kit, mouse and rat, has been developed for the gentle, rapid, and efficient generation of single-cell suspensions from rodent liver based on *ex vivo* perfusion using gentleMACS Perfusers. It requires only one liver lobe and works with resected liver tissue, enabling the use of the same liver in different experimental settings. Furthermore, it is optimized to obtain a high yield of hepatocytes and non-parenchymal cells in 45 minutes while preserving important cell surface epitopes.

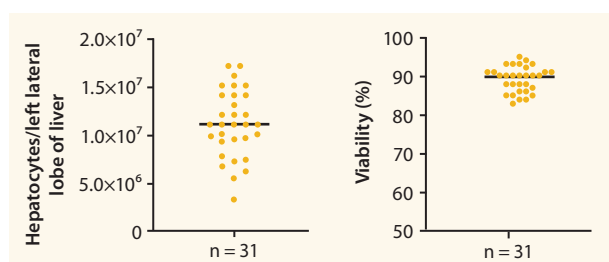


Figure 6: Liver perfusion was done using gentleMACS Perfusion Technology. The hepatocyte yield is given as total yield per left lateral lobe of mouse liver. Cell viability was determined using propidium iodide (PI) and analyzed directly by MACSQuant Analyzer (n = 31, Balb/c and C57BL/6, 6–12 weeks).

Mouse heart perfusion

The Heart Perfusion Kit, mouse, compatible with the gentleMACS Perfusers 2 for small organs, enables the gentle and efficient generation of single-cell suspensions from resected mouse hearts. The kit has been optimized to provide a high yield of primary cardiomyocytes, cardiac fibroblasts, smooth muscle cells, and endothelial cells while preserving important cell surface epitopes.

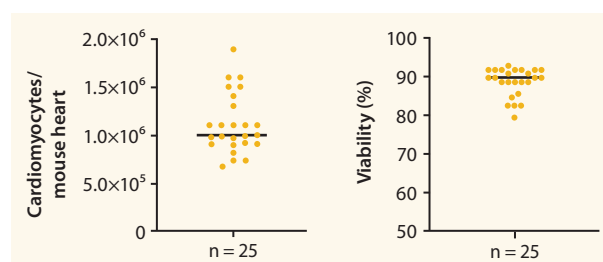


Figure 7: The cardiomyocyte yield is given as total yield per mouse heart. To determine cell viability, cells were stained with PI and analyzed directly with the MACSQuant Analyzer (n = 25, C57BL/6, 6–8 weeks).

LEARN MORE

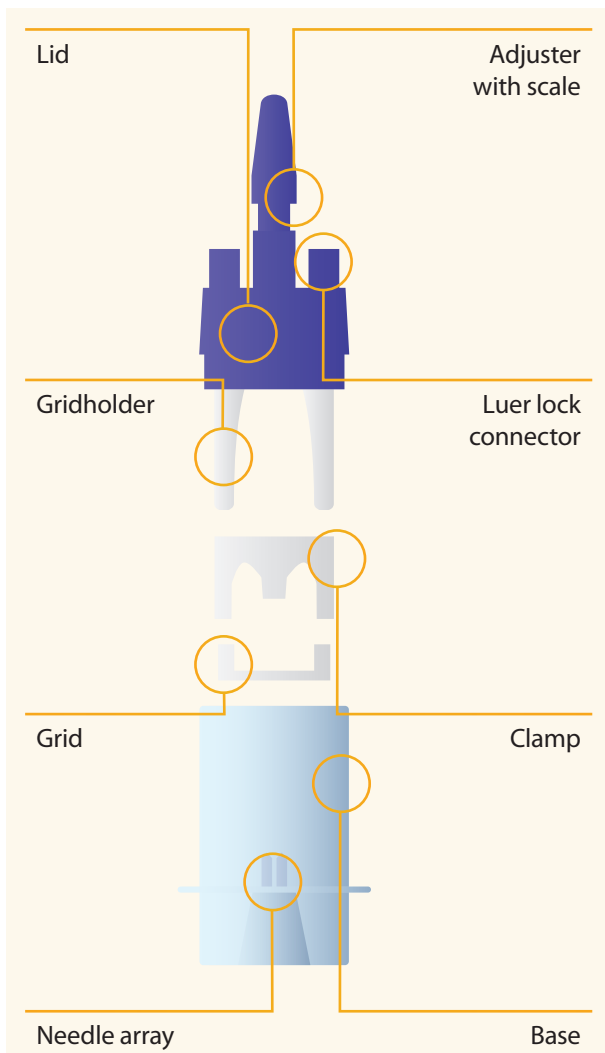


Choose the right gentleMACS Perfuser for your experiment:

► [miltenyibiotec.com/perfusion](https://www.miltenyibiotec.com/perfusion)

gentleMACS Perfusers – quick and easy assembly

The centerpiece of this technology is the innovative gentleMACS Perfuser. This single-use consumable has a unique design. The process begins by placing the resected organ between the grid and clamp; the tissue is secured by the clamp. This assembly is then inserted into a specially designed base equipped with a needle array and an integrated peristaltic pump. Using gentleMACS Perfusion Sleeves, the pump efficiently delivers fluid through the needle array into the penetrated tissue, ensuring uniform fluid distribution throughout the resected organ. This precise and gentle perfusion method enhances the efficacy and reliability of the procedure.



Extraction and isolation of intact cell organelles

To extract and isolate intact nuclei, mitochondria, and extracellular vesicles (EVs), including exosomes, we provide methods using MACS Cell Separation Technology. This technology enables the isolation of pure, viable, and functional subcellular organelles in a short time.

Extraction and isolation of mitochondria

Our Mitochondria Extraction Kit in combination with the isolation kits, including Anti-TOM22 MicroBeads, enable the extraction and isolation of pure and functional mitochondria with high yields suitable for downstream functional assays.

Isolation and analysis of EVs

Our EV Isolation Kits, for human and mouse samples, utilize MicroBeads for efficient and rapid magnetic extraction of pure EVs, including exosomes, from diverse sample sources in both human and mouse samples.

Extraction and isolation of nuclei

In order to achieve reproducible results in genomic applications such as single-nucleus RNA sequencing (snRNA-seq), the quality of the sample material is critical. Designed to improve the start of your experiment, the standardized workflow on the gentleMACS Octo Dissociator with Heaters for the extraction and enrichment of nuclei includes the following three products:

Nuclei Extraction Buffer

Extract intact nuclei from virtually any fresh, frozen, or OCT-embedded tissue in an automated and reproducible way on the gentleMACS Platform.

gentleMACS Octo Coolers

Maintain a constant low temperature throughout the sample preparation process with this passive cooling device to reduce the activation of stress response genes.

Anti-Nucleus MicroBeads

Purify your nuclei suspension and eliminate the need for additional myelin or debris removal.

This is especially advantageous when working with tissues that are challenging to process, including brain, liver, muscle, heart, and frozen samples.



How it works

The nuclei extraction and enrichment workflow streamlines the rapid and reproducible preparation of nuclei suspensions while increasing sample purity through enrichment in just 40 minutes.

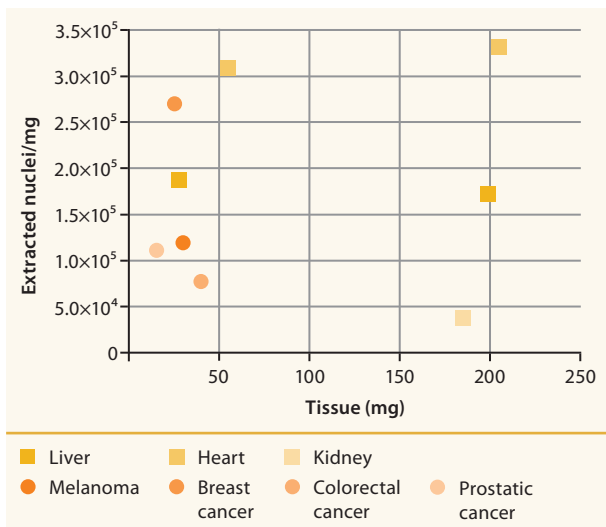


Figure 8: Nuclei were extracted from mouse tissues (squares) and human tumors (circles) using Nuclei Extraction Buffer with a gentleMACS Octo Dissociator with Heaters, stained with DAPI and analyzed by flow cytometry (MACSQuant Analyzer 10). The graph shows the yield of nuclei per mg of tissue.

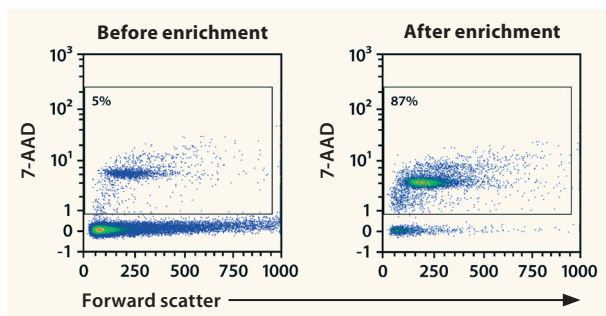


Figure 9: Nuclei were extracted from mouse brain tissue using Nuclei Extraction Buffer, gentleMACS Octo Coolers, and a gentleMACS Octo Dissociator with Heaters. Enrichment was performed using Anti-Nucleus MicroBeads, an LS Column, and a QuadroMACS™ Separator. Nuclei were stained with 7-AAD and analyzed by flow cytometry (MACSQuant Analyzer). Enrichment increased purity from 5% to 87%.

Achieve reproducible snRNA-seq results

To demonstrate that nuclei isolated by MACS Technology are compatible with snRNA-seq, three distinct snap-frozen adult mouse brain hemispheres were independently processed and compared. Samples 1 and 2 consist of single-nucleus suspensions enriched by using Anti-Nucleus MicroBeads after extraction, the third sample did not undergo any additional cleaning.

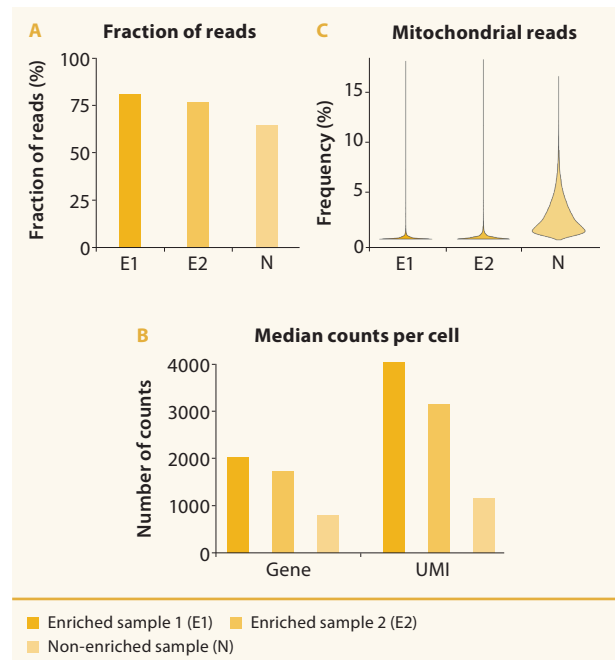


Figure 10: The Chromium™ Single Cell 5' v1.1 Reagent Kit (10x Genomics®) was used to perform snRNA-seq on all samples, and barcoded cDNA libraries were then sequenced using an Illumina® Sequencing System. (A) Using Anti-Nucleus MicroBeads improved the fraction of reads and (B) the median counts per cell for genes and unique molecular identifier (UMI). (C) Additionally, the frequency of mitochondrial gene reads showed that using Anti-Nucleus MicroBeads significantly led to reduction of undesired mitochondrial reads.

LEARN MORE



Learn more about how to extract and enrich nuclei from virtually any tissue:

► miltenyibiotec.com/nuclei-enrichment

Efficient sample cleaning

Cell suspensions are often complex and unwanted material, like dead cells, debris, and red blood cells, can have interfering effects on downstream applications. Our cell strainers and removal reagents effectively clean and prepare your sample for downstream assays.

Smart strainers and filters

MACS SmartStrainers can be used for the removal of larger particles from cell suspensions of dissociated tissue or blood samples:

- Improved ventilation during filtration avoids clogging of the strainers.
- Easily fit onto standard 15 mL and 50 mL conical tubes.
- Various mesh sizes are available, including 30, 70, and 100 μm to fit your specific application.

Pre-Separation Filters are designed for effective and easy removal of cell aggregates from single-cell suspensions after labeling with MACS MicroBeads or antibodies:

- Perfect for low sample volumes with a variety of mesh sizes (20, 30, and 70 μm).
- Compatible with MACS MS, LS, LD, CS, Large Cell, and Whole Blood Columns.
- Fits 5 mL, 13 mL, and 15 mL conical tubes.

Dedicated solutions to reduce complexity

Our sample cleaning reagent portfolio provides options to reduce complexity of cell suspensions. Improve the efficiency of antibody binding, isolation of target cells, cell culture conditions, and the quality of genomic analysis by removing unwanted material, such as:

- dead cells
- debris
- endotoxins
- myelin
- red blood cells (RBCs)



Effective removal of unwanted material

Cell suspension cleanup

The Cell Suspension Cleanup Kit, human, streamlines your workflow with our MACS Technology, designed to efficiently remove dead cells, RBCs, and free organelles, such as nuclei and mitochondria in a single step. Omit RBC lysis and get faster and more reliable results while preserving the viability of your target cells for optimal sequencing data.

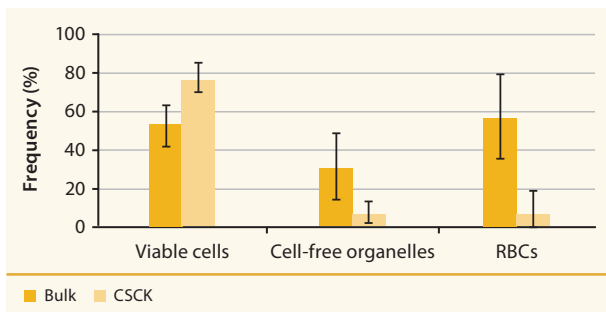


Figure 11: Human ovarian cancer (OvCa) tissue was dissociated using the gentleMACS Octo Dissociator with Heaters and the Tumor Dissociation Kit, human. After dissociation, an unprocessed sample (bulk) was taken from the tumor bulk, while the rest of the sample was purified using the Cell Suspension Cleanup Kit, human (CSCK). Flow cytometry was applied to analyze viability before and after CSCK-based purification using PI. The CSCK is able to improve viability of dissociated human tumor tissue to up to 80%, while RBCs and cell-free organelles can be depleted down to approx. <8%, respectively (n = 3–5).

Dead cell removal

The removal of dead cells improves cell cultivation, reduces flow sorting time, and increases the recovery rate when performing single-cell analysis. Use the Dead Cell Removal Kit for effective magnetic depletion of dead and dying cells when working with robust cells, such as epithelial cells, tumor cells, and immune cells.

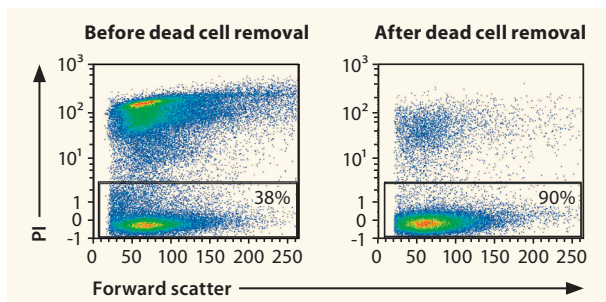


Figure 12: PBMCs were subjected to heat shock induced cell death for long time span. Subsequently, dead cells were removed using the Dead Cell Removal Kit according to the manufacturer's data sheet. For flow analysis, dead cells were stained using PI.

Debris removal

The Debris Removal Solution is a ready-to-use density gradient reagent. It allows for the fast removal of debris in cell suspensions containing fragile cells from brain, heart, liver, and kidney, while applying full acceleration and full brake during centrifugation.

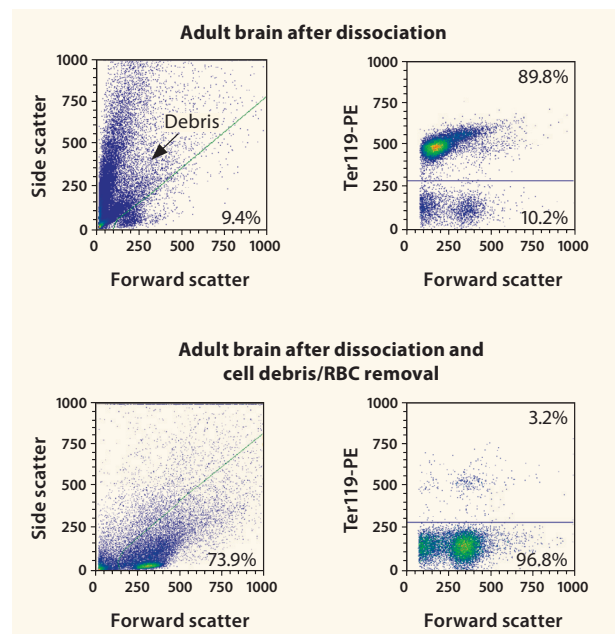


Figure 13: Adult mouse brain was dissociated using the Adult Brain Dissociation Kit, mouse, in combination with the gentleMACS Octo Dissociator with Heaters. Subsequently, RBCs were depleted using the Red Blood Cell Lysis Solution, before removing debris using the Debris Removal Solution. RBCs were stained with anti-Ter119-PE. Cells were analyzed by flow cytometry using the MACSQuant Analyzer based on scatter signals to demonstrate absence of debris after debris removal.

Applications

Tumor cell isolation for reliable downstream applications

We have developed our MicroBead-based Tumor Isolation Kits and the Mouse Cell Depletion Kit for the fast and easy removal of all non-tumor cells from human, mouse, and PDX tumors. A prerequisite for optimal results is the preservation of cell surface epitopes during the dissociation of the tumors. This can be achieved using the gentleMACS Octo Dissociator with Heaters and the Tumor Dissociation Kits for the dissociation of any tumor entity. The subsequent tumor cell isolation allows for the removal of >95% of contaminating non-tumor cells. Pure tumor cell suspensions significantly increase the quality of downstream applications, especially cell culture and molecular applications.

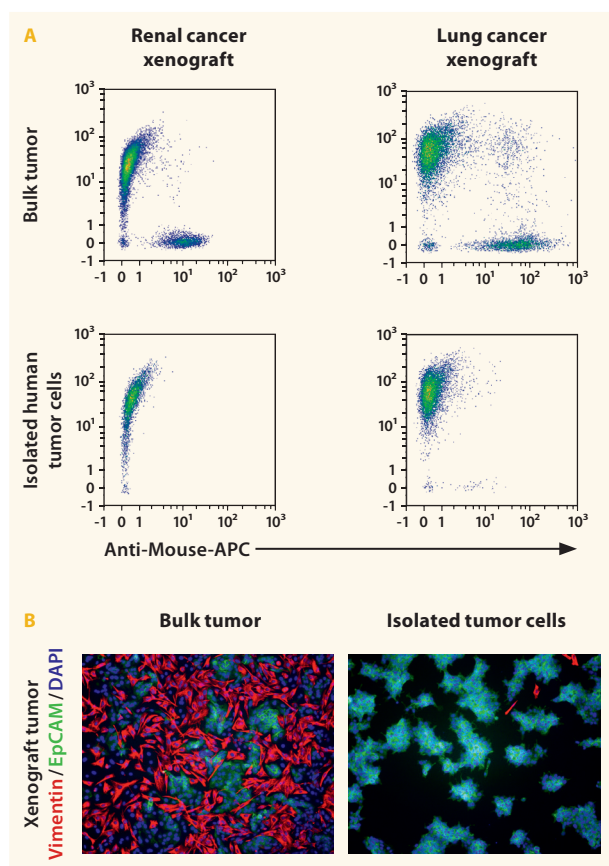


Figure 14: (A) Xenograft tumors were dissociated using the gentleMACS Octo Dissociator with Heaters and the Tumor Dissociation Kit, human according to the datasheet. Non-tumor cells were depleted from the cell suspension using the Mouse Cell Depletion Kit. (B) Upon magnetic separation, the original bulk and isolated tumor cell fractions were cultured for seven days, fixed, and stained. Human tumors were stained for the human-specific epithelial tumor marker CD326 (EpCAM). Even after seven days, the cultures of isolated tumor cells were nearly pure.

Isolation of viable primary neurons from adult mouse brain

The Adult Brain Dissociation Kit, mouse and rat, has been developed for fast and standardized dissociation of adult mouse brain (>P7), yielding viable neural cells, including neurons, astrocytes, oligodendrocytes, and microglia. The included debris removal step enables efficient isolation of specific cell populations. For the isolation of neurons, all non-neurons are removed from the sample, thus allowing for pure neuron cell cultures and targeted functional and molecular analysis.

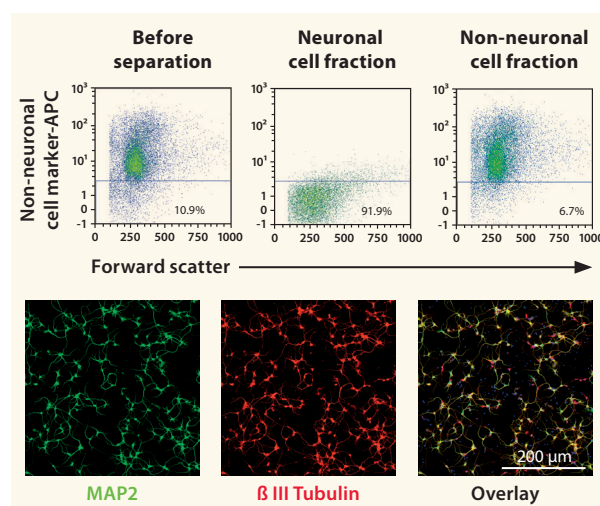


Figure 15: Adult neurons were enriched to over 90% purity from dissociated mouse brain using the Neuron Isolation Kit. After 7 days in cell culture using MACS Neuro Medium supplemented with MACS NeuroBrew[®]-21 neurons grew to a network as indicated by MAP2 (green) and β III Tubulin (red staining).

EXPLORE



Take a look at all our application notes in the field of sample preparation:

► [miltenyibiotec.com/BrochureApps](https://www.miltenyibiotec.com/BrochureApps)

Product	Order no.
gentleMACS Dissociators and Tubes	
gentleMACS Octo Dissociator with Heaters	130-134-029
gentleMACS Dissociator	130-093-235
C Tubes, 25 tubes*	130-093-237
M Tubes, 25 tubes*	130-093-236
M Tubes with Strainer, 50 tubes	130-094-392
Sample preparation accessories	
MACSmix Tube Rotator	130-090-753
gentleMACS Octo Coolers (4 pieces)	130-130-533
gentleMACS Perfusion Technology	
gentleMACS Perfusion Sleeves (4 pieces)	130-128-752
gentleMACS Perfusers	130-128-151
gentleMACS Perfusers 2	130-134-803
Liver Perfusion Kit, mouse and rat	130-128-030
Heart Perfusion Kit, mouse	130-134-266
Tumor tissue	
Tumor Dissociation Kit, mouse	130-096-730
Tumor Dissociation Kit, human	130-095-929
Brain Tumor Dissociation Kit (P)	130-095-942
FFPE Tissue Dissociation Kit	130-118-052
FFPE Tissue Dissociation Kit for RNA Profiling	130-134-089
Neural tissue	
Adult Brain Dissociation Kit, mouse and rat	130-107-677
Neural Tissue Dissociation Kit (P)	130-092-628
Neural Tissue Dissociation Kit (T)	130-093-231
Neural Tissue Dissociation Kit, Postnatal Neurons	130-094-802
Neurosphere Dissociation Kit (P)	130-095-943
Immune tissue	
Liver Dissociation Kit, mouse	130-105-807
Lung Dissociation Kit, mouse	130-095-927
Spleen Dissociation Kit, mouse	130-095-926
Lamina Propria Dissociation Kit, mouse	130-097-410
Whole Skin Dissociation Kit, human	130-101-540
Epidermis Dissociation Kit ACF, mouse	130-095-928
Epidermis Dissociation Kit ACF, human	130-103-464
Other tissues	
Multi Tissue Dissociation Kit 1	130-110-201
Multi Tissue Dissociation Kit 2	130-110-203
Multi Tissue Dissociation Kit 3	130-110-204
Neonatal Heart Dissociation Kit, mouse and rat	130-098-373
Skeletal Muscle Dissociation Kit, mouse and rat	130-098-305

Product	Order no.
Adipose Tissue Dissociation Kit, mouse and rat	130-105-808
Umbilical Cord Dissociation Kit, human	130-105-737
Embryoid Body Dissociation Kit, human and mouse	130-096-348
Storage solutions	
MACS Tissue Storage Solution	130-100-008
MACS Cell Storage Solution	130-130-263
MACS Freezing Solution	130-129-552
Strainers and filters	
MACS SmartStrainers (30 µm), 50 filters*	130-098-458
MACS SmartStrainers (70 µm), 50 filters*	130-098-462
MACS SmartStrainers (100 µm), 50 filters*	130-098-463
Pre-Separation Filters (20 µm), 50 filters	130-101-812
Pre-Separation Filters (30 µm), 50 filters	130-041-407
Pre-Separation Filters (70 µm), 50 filters	130-095-823
Removal reagents	
Dead Cell Removal Kit	130-090-101
Cell Suspension Cleanup Kit, human	130-135-177
Debris Removal Solution	130-109-398
Red Blood Cell Lysis Solution (10x)	130-094-183
Myelin Removal Beads II, human, mouse, rat*	130-096-733
Annexin V MicroBead Kit	130-090-201
Endotoxin Removal Beads*	130-093-657
Organelle extraction and isolation	
Nuclei Extraction Buffer	130-128-024
Anti-Nucleus MicroBeads	130-132-997
Mitochondria Extraction Kit - Tissue	130-097-340
Mitochondria Isolation Kit, human	130-094-532
Mitochondria Isolation Kit, mouse tissue	130-096-946
Anti-TOM22 MicroBeads, mouse	130-127-693
EV Isolation Kits	**
StraightFrom® Spleen Kits	***

*These products are also available in different sizes.

**For EV Isolation Kits visit: miltenyibiotec.com/ev-isolation-kits

***For all StraightFrom Spleen Kits visit: miltenyibiotec.com/straightfrom



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