Miltenyi Biotec

gentleMACS™ Perfusers 2

Order no. 130-134-803

Contents

1. Description
   - 1.1 Background information
   - 1.2 Technical specifications
   - 1.3 Reagent and instrument requirements
   - 1.4 Applications
2. Protocol

1. Description

This product is for research use only.

Components	**25 gentleMACS Perfusers 2**, sterile and single-packed
	50 Luer Caps, sterile packed in one bag
Storage	Store gentleMACS Perfusers 2 dry and protected from light at room temperature. The expiration date is indicated on the box label.

1.1 Background information

The gentleMACS Perfusers 2 are single-use consumables designed exclusively for the gentleMACS Perfusion Technology using the gentleMACS Octo Dissociator with Heaters. gentleMACS Perfusers 2 are used for the gentle and efficient perfusion of tissue samples in order to isolate sensitive cell types.

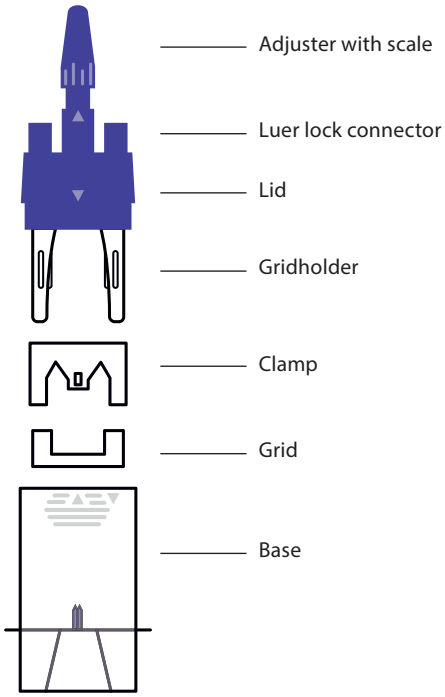


Figure 1: Components of the gentleMACS Perfusers 2. The gentleMACS Perfuser 2 is pre-assembled and consists of the two main parts: the lid-clamp-grid assembly and the base.

The gentleMACS Perfuser 2 is specifically designed for the perfusion of small-sized tissues, e.g., mouse hearts. It features a reduced number of needles and a shorter needle distance compared to the gentleMACS Perfuser (# 130-128-151), which has been designed for the perfusion of larger murine tissues or organs, e.g., murine liver. It arrives pre-assembled and consists of two main parts: the lid-clamp-grid assembly and the base. The base contains an in-built peristaltic pump which delivers liquids via a needle array into the penetrated tissue sample. To aspirate buffer from the inside of the gentleMACS Perfuser 2, introduce a glass Pasteur pipette with elongated tip through one of the luer lock connectors to the base bottom. The adjuster on top of the lid can be used to adapt the penetration depth of the needle array into the sample material. The adjuster is set by default to the correct position for optimal penetration of a mouse heart.
For more information on the penetration depth, the clamp position in the grid, and if turning of the adjuster is needed, refer to the data sheet of the respective MACS® Tissue Perfusion Kit.

1.2 Technical specifications

- Dimensions
  - Length: 100 mm
  - Diameter: 38 mm
- Reservoir of empty gentleMACS Perfuser 2: 10 mL
- Recommended working temperature is betweeen +4 °C and +40 °C.
- Chemical resistance: Only use water-soluble liquids within the gentleMACS Perfuser 2.
- The gentleMACS Perfusers 2 are for single use only.

  ▲ **Note:** Do not reuse the gentleMACS Perfusers 2. Reusing the gentleMACS Perfuser 2 will lead to damage of the pumping membrane due to higher mechanical stress. This might lead to reduced performance and liquid leakage.

1.3 Reagent and instrument requirements

- gentleMACS Octo Dissociator with Heaters
- gentleMACS Perfusion Sleeves (# 130-128-752)
- MACS Tissue Perfusion Kit of choice, e.g., Heart Perfusion Kit, mouse (# 130-134-266)

1.4 Applications

The gentleMACS Perfusers 2 together with the gentleMACS Perfusion Sleeves and MACS Perfusion Kits are designed for the perfusion of tissues to obtain highly viable single-cell suspensions, e.g., cardiomyocytes from perfused mouse heart.

For further details and more applications, refer to www.miltenyibiotec.com. The gentleMACS Protocols are also online available at www.miltenyibiotec.com/protocols.

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2. Protocol

▲ The gentleMACS Perfuser 2 is delivered with the adjuster being in the correct position for the perfusion of mouse heart. The penetration of the needles into the organ can be adjusted by turning the adjuster clockwise for deeper penetration or counterclockwise to increase the distance between the grid and the needle for less penetration. For more information, refer to the data sheet of the respective MACS Tissue Perfusion Kit.

▲ The enclosed luer caps can be used to close the luer openings. However, both openings must be free during buffer replacement.

1. Replace the regular sleeve of the gentleMACS Octo Dissociator with Heaters with the gentleMACS Perfusion Sleeve.
2. Attach the base of the gentleMACS Perfuser 2 with the connected lid-clamp-grid assembly to the gentleMACS Octo Dissociator with Heaters.
3. Install the Heating Unit.
4. Prime the gentleMACS Perfuser 2 with the respective buffer by starting an appropriate gentleMACS Perfusion Program to remove air from the pumping membrane and needles.
5. Remove the lid-clamp-grid assembly from the base by turning the lid counterclockwise until it can be lifted from the base. The base remains on the instrument. Place the lid-clamp-grid assembly on a flat surface, e.g., in a petri dish, place the tissue in the center of the grid and fix it by pushing down the clamp.
6. Turn the lid complex slowly counterclockwise on the base until the arrow on the lid (▼) aligns with the arrow on the base (▼). At this position, the lid complex drops to a lower position.

   ▲ **Note:** If necessary, the lid can slightly be pushed down.
7. Turn the lid clockwise until the arrow on the lid (▼) aligns with the arrow on the base (▲) to secure the gentleMACS Perfuser 2.
8. Start the perfusion process by resuming an appropriate gentleMACS Perfusion Program.
9. After processing, detach the gentleMACS Perfuser 2 and place the lid-grid-clamp assembly on a flat surface, e.g., in a petri dish. Remove the perfused tissue from the perfuser by pressing down the grid and pushing up the clamp, e.g., with forceps. Discard the gentleMACS Perfuser 2. Cells can now be released from the perfused tissue by disruption, e.g., using a gentleMACS C Tube and an appropriate Tissue Dissociation Program on the gentleMACS Octo Dissociator with Heaters.

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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