

Medical variants



Air Craft

New Eppendorf microinjectors CellTram® 4m Air and CellTram® 4m Oil
for optimal sample control

CellTram[®] 4m Air

Working with the new generation of CellTrams is like taking a breath of fresh air. Our new manual microinjectors have been designed with special emphasis on excellent ergonomics, ease of use and highest precision.

The CellTram 4m Air is a pneumatic microinjector optimized for safe and reliable use in assisted reproductive technology. It is ideal for gentle holding of cells or embryos.

Due to its improved characteristics the CellTram 4m Air is also highly suitable for **uptake and injection of cells** (e.g., of sperm or ES cells). For this application its performance is comparable to that of oil-filled injectors.

Have you been looking for a solution to work entirely oil-free? With the CellTram 4m Air you can avoid oil contaminations and save time by omitting the filling process.



Features CellTram 4m Air

- 1 Non-hydraulic system for oil-free manipulation and injection of cells
- 2 Piston position scale allows to set air volume and injection characteristics according to individual needs

Features CellTram 4m (both models)

- 3 Coarse and fine drive for precise and intuitive sample control
- 4 Improved rotary knob design for better handling and easier cleaning
- 5 Universal capillary holder 4 with markings for easier positioning



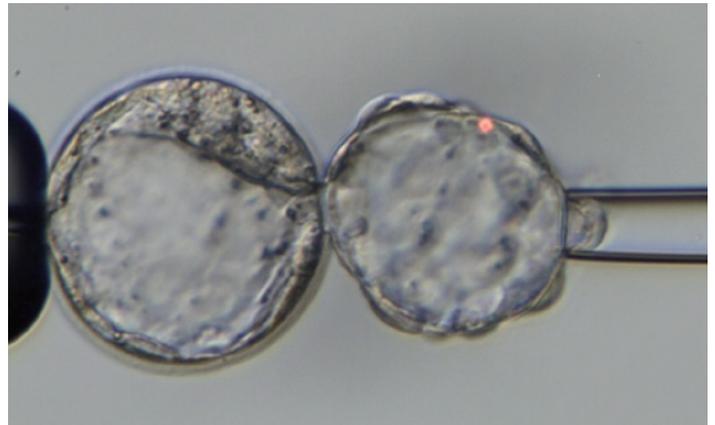
The CellTram 4m Air features single button aeration. This allows you to quickly equilibrate pressure differences between the cylinder and ambient pressure, thereby speeding up your workflow.



The right solution for your application



Intracytoplasmic sperm injection (ICSI)
For treatment of certain forms of male infertility



Embryo biopsies in assisted reproductive technology
For preimplantation genetic diagnostics (PGD) and screening (PGS), e.g.,
> Polar body biopsy
> Blastomere biopsy
> Trophectoderm biopsy

Please consider legal and regulatory requirements regarding PGD/PGS in your country.



Teaming up for success

While compatible with all systems, the new CellTrams develop their full potential when used in combination with Eppendorf micromanipulators. The Eppendorf system offers many advantages, such as utmost smoothness of movement, fast capillary exchange and smart functions like position memory or Z-limit to prevent capillary breakage. All this helps to simplify your work and protect your precious samples.



	CellTram® 4m Air	CellTram® 4m Oil
Applications	<ul style="list-style-type: none"> > Gentle holding of cells in suspension (e.g., oocytes or blastocysts) > Aspiration and dispensing of small cells (e.g., sperm) 	<ul style="list-style-type: none"> > Aspiration and dispensing of small cells (e.g., sperm) > Removal of cells (e.g., for embryo biopsies)
Generation of pressure	Cylinder/piston system, air-filled	Cylinder/piston system, oil-filled
Volume change per revolution	60 µL / 600 µL	1 µL / 10 µL
Total volume	10 mL	1,000 µL
Minimum adjustable volume	<100 nL	<1.5 nL
Maximum pressure	3,000 hPa	20,000 hPa
Injection tube	Fluorinated ethylene propylene (FEP), 1.3 m length, inner diameter 0.5 mm, outer diameter 2 mm	Fluorinated ethylene propylene (FEP), 1.3 m length, inner diameter 1 mm, outer diameter 2 mm

CellTram® 4m Oil

The CellTram 4m Oil is a hydraulic microinjector filled with oil that provides more direct sample control and can generate higher pressures compared to an air system.

The CellTram 4m Oil is the tool of choice for sophisticated applications that demand high resolution and sensitivity (e.g., holding of embryos for biopsies or removal of biopsied cells). In addition, it addresses the same broad application spectrum as the CellTram 4m Air.

In terms of performance and leakage tightness, our oil-filled microinjectors are unmatched. In addition, the new CellTram 4m Oil is equipped with an improved oil-filling system, which enables quick filling without spilling of oil.

Both new CellTram 4m models suit all personal working techniques and offer reliable performance with minimal maintenance.



6 New grip head 4 system for simple capillary change and higher user safety

7 Position indicators and marking for in/out to reduce risk of user errors

8 Stable, nonslip base plate

Features CellTram 4m Oil

9 Improved oil-filling system for minimal interruption of the workflow

10 Optimized piston/cylinder system for ultrafine sensitivity

* The CellTram 4m was designed and manufactured for injection and aspiration of cells or cellular parts in the context of ex-vivo micromanipulations in combination with suitable microcapillaries in the area of human reproductive medicine. Therefore the CellTram 4m is a medical product in accordance with the guideline 93/42/EWG of the European Union. It shall only be used indoors and only by sufficiently trained specialists.

With the new oil-filling system, preparing the CellTram 4m Oil for operation is quick and easy. A special self-closing valve helps to prevent spilling of oil during the filling process.



Ordering information

Description	International Order no.
CellTram® 4m Air*¹ , pneumatic, manual microinjector with gear, with capillary holder 4 and injection tube Air inner diameter = 0.5mm (white ring mark)	5196 000.021
CellTram® 4m Oil*¹ , hydraulic, manual microinjector with gear, with capillary holder 4, injection tube Oil inner diameter = 1.0mm (blue ring mark) and Filling and Cleaning set	5196 000.048
Accessories for CellTram® 4m Air and CellTram® 4m Oil	
Capillary holder 4 for mounting grip heads 4	5196 081.005
Grip head set 4 size 0 for microcapillaries with outer diameter 1.0 to 1.1 mm	5196 082.001
Grip head set 4 size 1 for microcapillaries with outer diameter 1.2 to 1.3 mm	5196 083.008
Grip head set 4 size 2 for microcapillaries with outer diameter 1.4 to 1.5 mm	5196 084.004
Grip head set 4 size 3 for microcapillaries with outer diameter 0.7 to 0.9 mm	5196 085.000
O-ring-set 4 for grip head sets 4	5196 086.007
Injection tube Air , inner diameter = 0.5 mm (white ring mark)	5196 061.004
Injection tube Oil , inner diameter = 1.0 mm (blue ring mark)	5196 089.006
Filling and Cleaning set for CellTram 4m Oil	5196 088.000
Micromanipulator	
TransferMan® 4m*¹ , micromanipulator with DualSpeed™ joystick for direct and dynamic movement control* ¹	5191 000.015
Microscope adapters , for all common microscopes	available upon request

*¹ These products are registered in Europe as medical device (according to Medical Device Directive 93/42/EEC).

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www.eppendorf.com/cellmanipulation