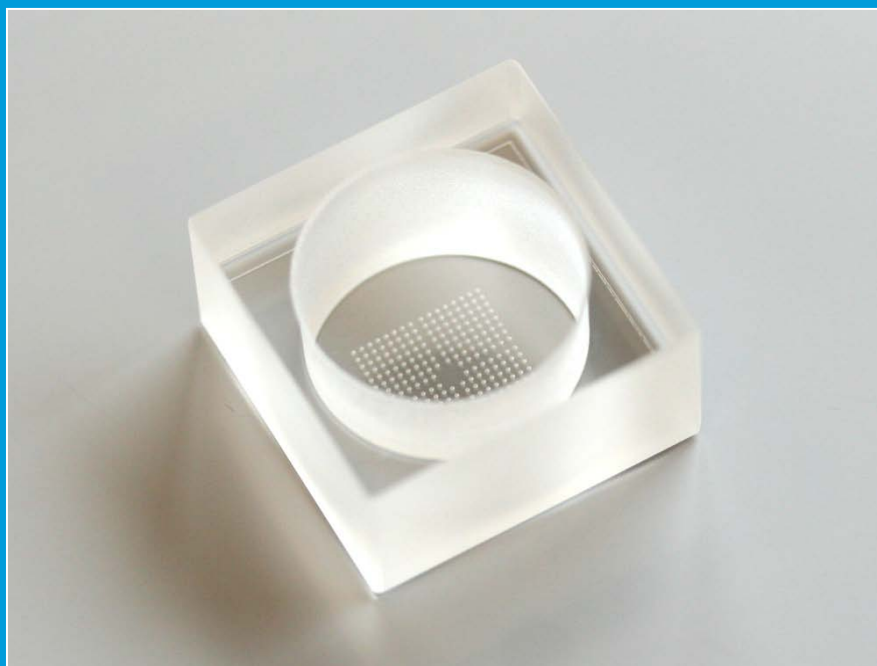


Embryo Immobilisation Chip and Interface



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Part name	Part number
Embryo Immobilisation Chip	3200208
Embryo Immobilisation Chip Interface	3200209
Embryo Immobilisation Chip Cleaning	3200210

Product description

The Embryo Immobilisation Chip (Part No. 3200208) is designed for the immobilisation and imaging of a large number of small non-adherent samples, such as embryos or cell aggregates, up to 150µm in diameter.

Samples can be transferred with a micro-pipette into well chambers that are open to the medium and have a bottom thickness that corresponds to a standard optical cover slip, allowing confocal imaging. The specific design of the well chambers keeps samples in place throughout imaging and during mounting/dismounting from the microscope.

In the past, long term high-resolution imaging of large numbers of small non-adherent samples was difficult to achieve due to movement of the samples that occurs as a result of currents in the medium. With the Embryo Immobilisation Chip samples can be safely carried in the device without displacement. This allows in-vitro culture and convenient simultaneous high-resolution imaging for several days. Samples can be easily retrieved thereafter with a micro-pipette from the device for further analysis, such as fixation and staining or genotyping.

The Embryo Immobilisation Chip can be supplied with a Chip Interface that is compatible with microscope stage inserts for standard 35mm petri-dishes.

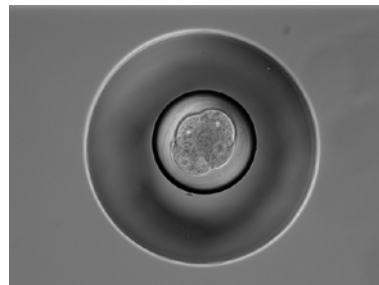
The Embryo Immobilisation Chip has been developed in collaboration with The Wellcome Trust/Cancer Research UK Gurdon Institute (University of Cambridge). The dimensions of the device are optimised for pre-implantation mouse embryos up to the blastocyst stage.



Embryo Immobilisation Chip with Chip Interface.



The Embryo Immobilisation Chip enables high resolution imaging of embryos.



A 4-cell stage mouse embryo is shown within a well, at 40x magnification. The embryo has a diameter of 100µm.

Main benefits

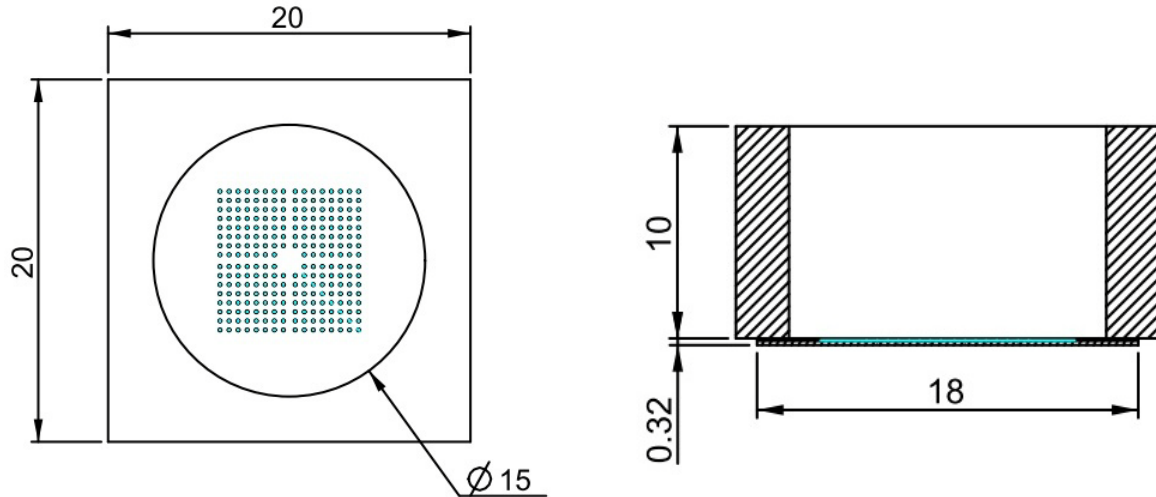
- Long term analysis of non-adherent cells
- Cells can safely be carried in the chip without displacement
- Compatible with common microscope stage inserts
- Quick and easy to assemble
- High visibility - excellent access for optics
- Reusable following cleaning and autoclaving
- Excellent chemical compatibility

Product specifications

Specification	Value
Chip size (length x width x thickness)	20mm x 20mm x 10.3mm
Chip material	Glass
Number of well chambers	252
Well chamber diameter	120µm
Base layer thickness for imaging cells	200µm
Well bottom to base distance	145µm
Fabrication process	Isotropic etching and thermal bonding
Biocompatibility	No adhesives, only wetted material is glass
Interface size (diameter x thickness)	35mm x 10mm
Interface material	Aluminium
Interface compatibility	Microscope stage inserts for standard 35mm petri-dishes

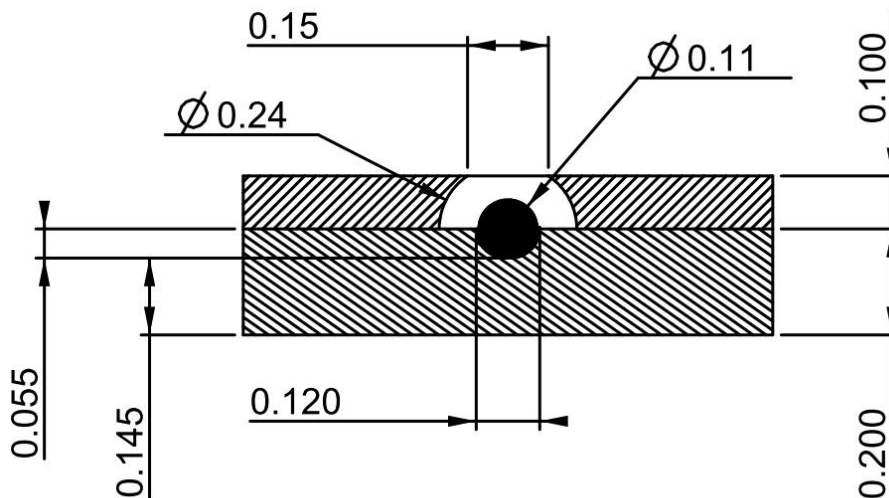
Chip geometry

Geometry of the Embryo Immobilisation Chip:



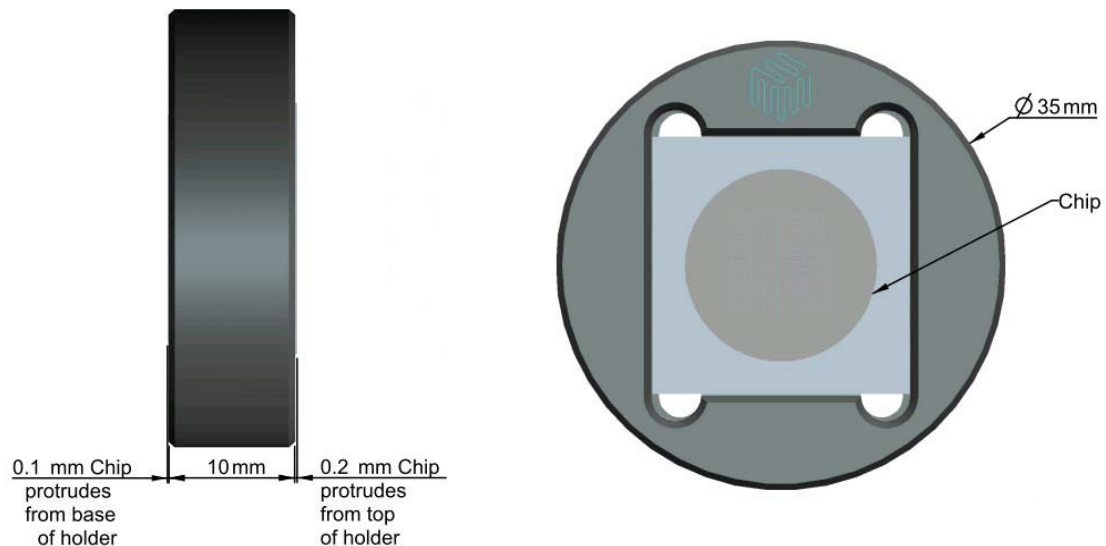
Cross-section of cell immobilisation well

The wells are open to the medium and have a bottom thickness (145µm) that corresponds to a standard optical cover slip. The dimensions of the wells are optimised for pre-implantation mouse embryos up to the blastocyst stage.



Geometry of the Embryo Immobilisation Chip Holder:

The chip can be placed in the interface as shown below. The base layer of the chip protrudes from the base of the holder by 0.1mm to provide access for optics.



The Embryo Immobilisation Chip has been developed in collaboration with The Gurdon Institute (University of Cambridge) www.gurdon.cam.ac.uk



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