

Sarstedt TC Inserts



Sarstedt TC (Tissue Culture) Inserts are easy-to-use inserts for TC plates. When used in combination with our TC plates, the inserts form a 2-compartment cell culture system in which the *in vivo* situation of cells can be simulated excellently. Our TC inserts are suitable for performing many complex experiments in cell and tissue culture such as:

- Transport, secretion and diffusion studies
- Migration experiments
- Cytotoxicity tests
- Co-cultures
- Transepithelial electrical resistance (TEER) measurements
- Primary cell cultures
- 3D cell cultures

The TC Inserts are compatible with the corresponding Sarstedt TC plates*:

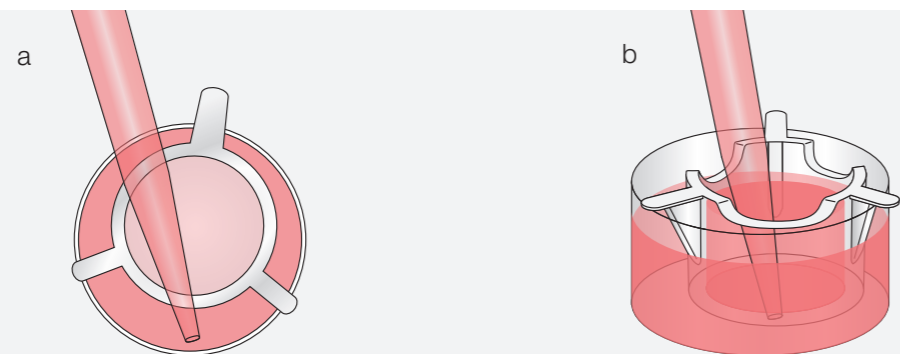
Order no.*	Format	Growth surface [cm ²]		Working volume [ml]	
		Well	Insert	Well	Insert
83.3920.xxx	6-well TC plate	8.87	4.5	2.4–4.8	1–4
83.3921.xxx	12-well TC plate	3.65	1.1	1.2–2.4	0.2–0.8
83.3922.xxx	24-well TC plate	1.82	0.3	0.8–1.6	0.1–1.6

* You can find detailed information on the TC plate range in our catalog, TC brochure or at www.sarstedt.com

The exceptionally user-friendly design of the hanging Sarstedt TC Inserts boasts the following features:

- The casing is stable and made from highly transparent polystyrene (PS).
- The inserts are positioned asymmetrically in the well, so that there is a wide gap on one side for comfortable pipetting with serological pipettes, for example (see Fig. 1a).
- Spacers beneath the supporting arms prevent fluid from getting trapped between the insert and the well.
- Gaps in the top edge of the PS casing allow for optimal gas exchange (see Fig 1b).

Figure 1

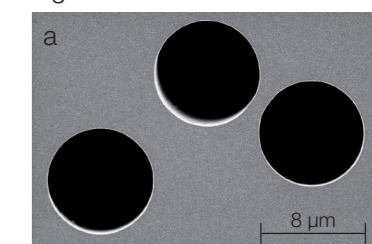


Membrane properties

The TC Inserts are provided with a PET (polyester) membrane and are available in five different pore sizes (0.4 µm, 1 µm, 3 µm, 5 µm and 8 µm) and two optical properties (transparent and translucent). Our PET membrane offers the following advantages:

- The ultra-thin, high-quality track-etched PET membrane with defined pore size (Fig. 2a) provides an ideal substrate for cell culture experiments.
- All membrane designs have a defined pore density. The translucent membranes have a higher pore density (i.e. more pores per cm²) compared to the transparent membranes, which leads to the optical opacification of the membrane.
- Both sides of the membrane are surface-treated (TC treated) for optimal cell adhesion.
- The chemical properties of the PET membrane minimize the non-specific binding of molecules.
- PET has a high chemical resistance, allowing many standard methods for fixing and staining the cells to be performed.
- The robust membrane can be separated from the PS casing using a scalpel. The membrane stays flat for processing convenient further (Fig. 2b).

Figure 2



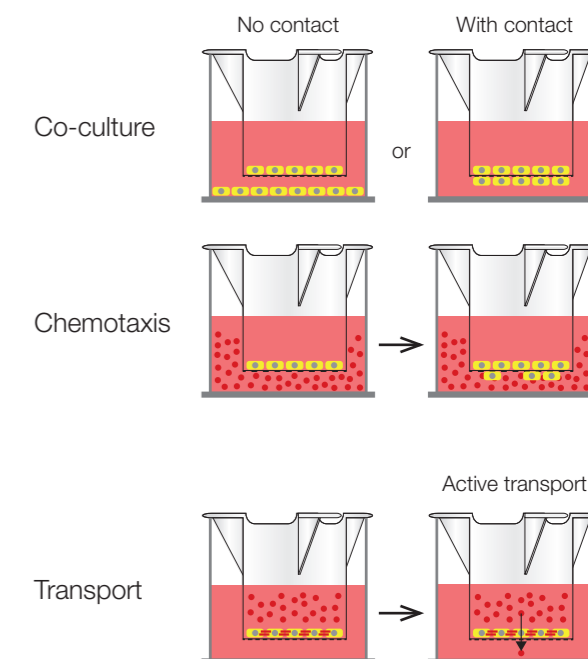
Electromicroscopic image shows the even distribution and consistent size of the pores.



Detached PET membrane stays flat and does not curl.

General information: Areas of application of the Sarstedt TC inserts

- Membranes with small pore sizes (0.4 µm, 1 µm) are suitable for applications in which the migration of cells through the membrane pores is not desired. In co-culture experiments, for example, cells can be cultivated in close proximity to one another without the cell types becoming mixed together.
- Membranes with larger pores are recommended for experiments in which the migration of cells through the pores to the underside of the membrane should be possible. Depending on the cell type, membranes with a pore size of 3 µm, 5 µm or 8 µm should be used for performing chemotaxis, invasion and migration studies.
- Translucent membranes with a pore diameter of 0.4 µm allow for optimal basolateral diffusion for transport, secretion, diffusion and cytotoxicity studies, due to the high pore density.
- Translucent membranes are suitable for both electron microscopy and TEER (transepithelial electrical resistance) experiments.
- Transparent membranes can be used for both light and electron microscopy.



Sarstedt TC Inserts

In accordance with our basic principle that products which come into contact with cells must not have a disruptive influence on the cells, the Sarstedt TC Inserts are produced under stringent clean room conditions and are certified as follows:

- **Sterile**

As per ISO 11137 – 'Sterilization of health care products – Validation and routine control for sterilization with radiation'

- **Non-pyrogenic / endotoxin-free**

Based on the LAL test as per the FDA guideline for medical devices, detection limit < 0.06 EU/ml

- **Non-cytotoxic**

In compliance with ISO 10993 – 'Biological evaluation of medical devices – Part 5 Tests on in-vitro cytotoxicity'

Ordering information

Order no	Format	Membrane material	Pore Ø [µm]	Pore density [Pores/cm ²]	Optical Property	Membrane thickness [µm]	Packaging blister/box
83.3930.040	6-well	PET	0.4	1 x 10 ⁸	translucent	12	1 / 24
83.3930.041		PET	0.4	2 x 10 ⁶	transparent	12	1 / 24
83.3930.101		PET	1.0	2 x 10 ⁶	transparent	11	1 / 24
83.3930.300		PET	3.0	2 x 10 ⁶	translucent	9	1 / 24
83.3930.500		PET	5.0	6 x 10 ⁵	translucent	10	1 / 24
83.3930.800		PET	8.0	2 x 10 ⁵	translucent	11	1 / 24
83.3931.040	12-well	PET	0.4	1 x 10 ⁸	translucent	12	1 / 48
83.3931.041		PET	0.4	2 x 10 ⁶	transparent	12	1 / 48
83.3931.101		PET	1.0	2 x 10 ⁶	transparent	11	1 / 48
83.3931.300		PET	3.0	2 x 10 ⁶	translucent	9	1 / 48
83.3931.500		PET	5.0	6 x 10 ⁵	translucent	10	1 / 48
83.3931.800		PET	8.0	2 x 10 ⁵	translucent	11	1 / 48
83.3932.040	24-well	PET	0.4	1 x 10 ⁸	translucent	12	1 / 48
83.3932.041		PET	0.4	2 x 10 ⁶	transparent	12	1 / 48
83.3932.101		PET	1.0	2 x 10 ⁶	transparent	11	1 / 48
83.3932.300		PET	3.0	2 x 10 ⁶	translucent	9	1 / 48
83.3932.500		PET	5.0	6 x 10 ⁵	translucent	10	1 / 48
83.3932.800		PET	8.0	2 x 10 ⁵	translucent	11	1 / 48

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This document may contain information on products that may not be available in particular countries

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