

## Cell Culture Flasks

In research cell culture flasks are used as a matter of routine for the cultivation of eukaryotic cells. They are optimal products for adherent cells as well as for suspension cultures and applicable for different requirements. PAA offers standard and filter cap cell culture flasks of excellent optical clarity. The filter caps are equipped with a high quality membrane with a pore size of 0.22  $\mu\text{m}$  allowing consistent gas exchange. Cell culture flasks with green caps are suitable for adherent cells, providing a surface treated zone for optimal cell adhesion and growth. Flasks with white caps are designed for the requirements of suspension cells. The design of the flasks provides flexibility in media volume and saves incubator space. In addition, it facilitates the accessibility with cell scrapers and serological pipettes in an optimal way. The cell culture flasks are easy to stack and stand firmly in the incubator. The angled neck of the high profile flask reduces the risk of wetting the inside of the cap with medium, and thus provides additional protection against contamination.



- > With standard caps or filter caps available
- > Clear grade polystyrene

- > For adherent and suspension cells available
- > Plasma treated for adherent cells (flasks with green cap)
- > Sterilized by gamma irradiation
- > Angled, wide neck for easy access
- > Volume graduations on both sides
- > Large field of inscription for clear identification
- > Non-pyrogenic

Cat. No.	Material	Cap Type	Cap Colour	Growth Area (cm <sup>2</sup> )	Working Volume (ml)	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA70025X	PS	Filter	Green	25	5–10	+	+	5	200
PAA70075X	PS	Filter	Green	75	15–38	+	+	5	100
PAA71175X	PS	Filter	Green	175	20–85	+	+	5	40
PAA70125X	PS	Standard	Green	25	5–10	+	+	5	200
PAA70175X	PS	Standard	Green	75	15–38	+	+	5	100
PAA72175X	PS	Standard	Green	175	20–85	+	+	5	40
PAA70325X	PS	Filter	White	–	5–10	–	+	5	200
PAA70375X	PS	Filter	White	–	15–38	–	+	5	100
PAA74175X	PS	Filter	White	–	20–85	–	+	5	40
PAA70225X	PS	Standard	White	–	5–10	–	+	5	200
PAA70275X	PS	Standard	White	–	15–38	–	+	5	100
PAA73175X	PS	Standard	White	–	20–85	–	+	5	40

## Cell Culture Dishes



Cell culture dishes are applicable as alternative to cell culture flasks and appropriate for different requirements. PAA offers cell culture dishes of excellent optical clarity. High quality surface treatment of the growth area guarantees constant results. Easy stackability ensures a firm stand in the incubator. A raised ring around the circumference of the dish provides a secure grip of dish and lid. This reduces the risk of contamination due to unintentional removal of the lid. Cams inside the lid allow constant ventilation in a closed system.



- > Available in four different sizes (Ø 35, 60, 100, 150 mm)
- > Easy grip for simplified aseptic handling
- > Optically clear for microscopy
- > Optimal gas exchange due to ventilation cams in the lid
- > Plasma treated for optimal growth conditions
- > Sterilized by gamma irradiation
- > For adherent and suspension cells
- > Safe and stable storage due to raised stacking rings
- > Non-pyrogenic
- > User-friendly packaging

Cat. No.	Material	External Dimension (mm)	Internal Dimension (mm)	Growth Area (cm <sup>2</sup> )	Working Volume (ml)	External Grip	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA20035X	PS	35 x 10	34.3 x 9.3	9.4	3.0	+	+	+	20	500
PAA20060X	PS	60 x 15	52.7 x 12.6	21.5	5.0	+	+	+	10	500
PAA20101X	PS	100 x 20	88.0 x 16.0	60.8	12.5	+	+	+	10	200
PAA20151X	PS	150 x 20	138.5 x 15.4	148.0	35.0	-	+	+	10	120

## Cell Scrapers

Cell scrapers allow an efficient and gentle removal of adherent cells from the cultivation surface. They can be used as an alternative or in addition to enzymatic detachment solutions.

The cell scrapers are designed for optimal contact to the culture vessel and appropriate to flasks, dishes and plates. Even in culture containers with poorly accessible surfaces the free rotatability of the blade enables easy and complete scraping of attached cells. The thin and flexible blades of the scrapers are made of polyethylene, a material that does not affect the cells.



- > Adjustable blade for optimal flexibility
- > Available in two different sizes
- > Sterilized by gamma irradiation
- > Non-pyrogenic
- > Single packaged

Cat. No.	Material (handle)	Material (blade)	Blade Width (cm)	Total Length (cm)	Pieces / Bag	Purchase Unit (pcs)
PAA90020X	PP	PE	1.3	23.7	1	100
PAA90030X	PP	PE	2.0	30.0	1	100

## Multiwell Tissue Culture Plates

Multiwell tissue culture plates are used in all areas of cell culture and molecular biology. PAA provides multiwell plates in several sizes and for different applications. All of them are cell culture tested and designed for reduced cross contamination risk. The arrangement of each well standing on its own and corresponding condensation rings on the inner side of the lid allows safe sample handling. Thus the risk of contamination from sample material being carried over is minimized. An alphanumeric well coding ensures easy sample identification. A plasma treated or non-treated version can be selected for each multiwell plate (except 4 well plate) depending on the experiments.



- |   |   |
|---|---|
| <p><b>1</b> U-bottom</p> <ul style="list-style-type: none"><li>&gt; Round bottom shape</li><li>&gt; No sharp corners for easy pipetting and cleaning</li><li>&gt; Suitable for +/- analyses</li></ul> | <p><b>2</b> F-bottom</p> <ul style="list-style-type: none"><li>&gt; Flat bottom shape</li><li>&gt; For precise optical measurements</li><li>&gt; For microscopic applications</li></ul> |
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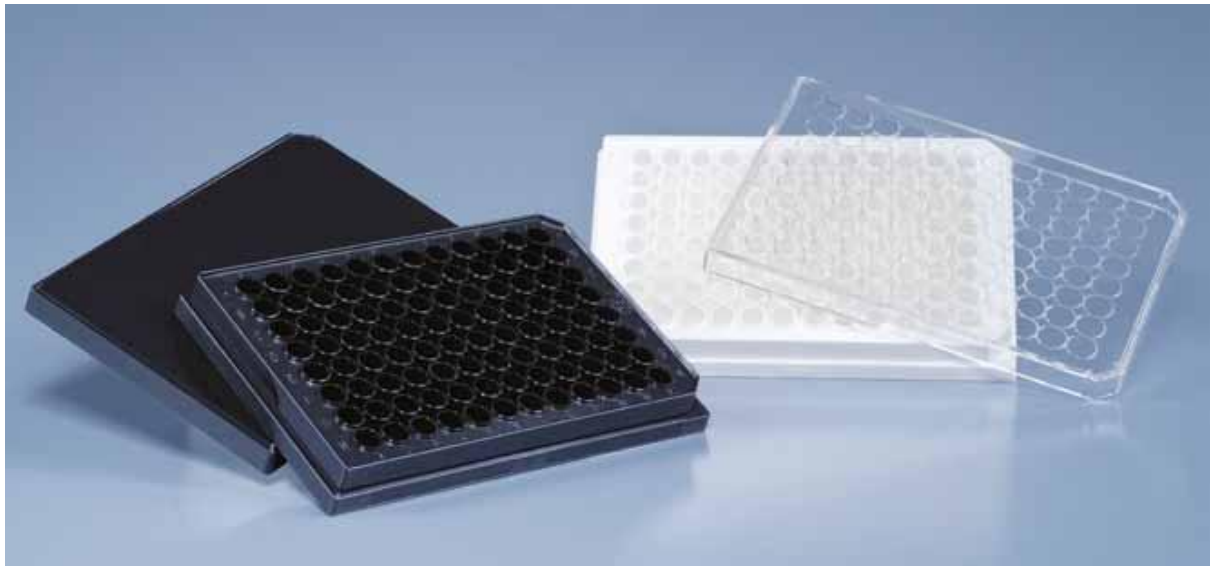
- > Optically clear for microscopy
- > Lid with condensation rings (except PAA30004, PAA30004X)
- > Safe grip for simplified aseptic handling
- > Optimal gas exchange due to ventilation cams in the lid
- > Stackable and space saving design
- > For adherent and suspension cells
- > Sterilized by gamma irradiation
- > Non-pyrogenic
- > 96 well with U- and F-bottom

Cat. No.	Well Format	Material	External Dimension (mm)	Well Dimension Ø (mm)	Growth Area (cm <sup>2</sup> )	Working Volume (ml)	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA30004	4 F	PS	66.0 x 66.0	15.8	2.0	1.0	+	+	4	4
PAA30004X	4 F	PS	66.0 x 66.0	15.8	2.0	1.0	+	+	4	120
PAA30006X	6 F	PS	85.4 x 127.6	35.0	9.6	3.0	+	+	1	50
PAA30012X	12 F	PS	85.4 x 127.6	22.1	3.8	2.0	+	+	1	50
PAA30024X	24 F	PS	85.4 x 127.6	15.6	1.9	1.0	+	+	1	50
PAA30048X	48 F	PS	85.4 x 127.6	9.75	0.75	0.5	+	+	1	50
PAA30096X	96 F	PS	85.4 x 127.6	6.4	0.32	0.2	+	+	1	50
PAA34096X	96 U	PS	85.4 x 127.6	6.4	0.32	0.2	+	+	1	50
PAA31006X	6 F	PS	85.4 x 127.6	35.0	9.6	3.0	-	-	1	50
PAA31012X	12 F	PS	85.4 x 127.6	22.1	3.8	2.0	-	-	1	50
PAA31024X	24 F	PS	85.4 x 127.6	15.6	1.9	1.0	-	-	1	50
PAA31048X	48 F	PS	85.4 x 127.6	9.75	0.75	0.5	-	-	1	50
PAA31096X	96 F	PS	85.4 x 127.6	6.4	0.32	0.2	-	-	10	100
PAA34196X	96 U	PS	85.4 x 127.6	6.4	0.32	0.2	-	-	10	100

## 96 Well Microplates for Colorimetric Assays

Colorimetric assays, e.g. fluorescence or luminescence measurements are more and more common in cell culture research. To avoid negative side effects such as background interference, autofluorescence or cross talk the use of black or white pigmented microplates is recommended. PAA provides two different high quality 96 well microplates, suitable also for various High Throughput Assays. High signal-to-noise ratio with low background is a characteristic feature of these plates. The 96 well microplates are cell culture tested and designed for reduced cross contamination risk. The arrangement of each well standing on its own and corresponding condensation rings on the inner side of the lid allow safe sample handling. Thus the risk of contamination from sample material being carried over is minimized. An alphanumeric well coding ensures easy sample identification.



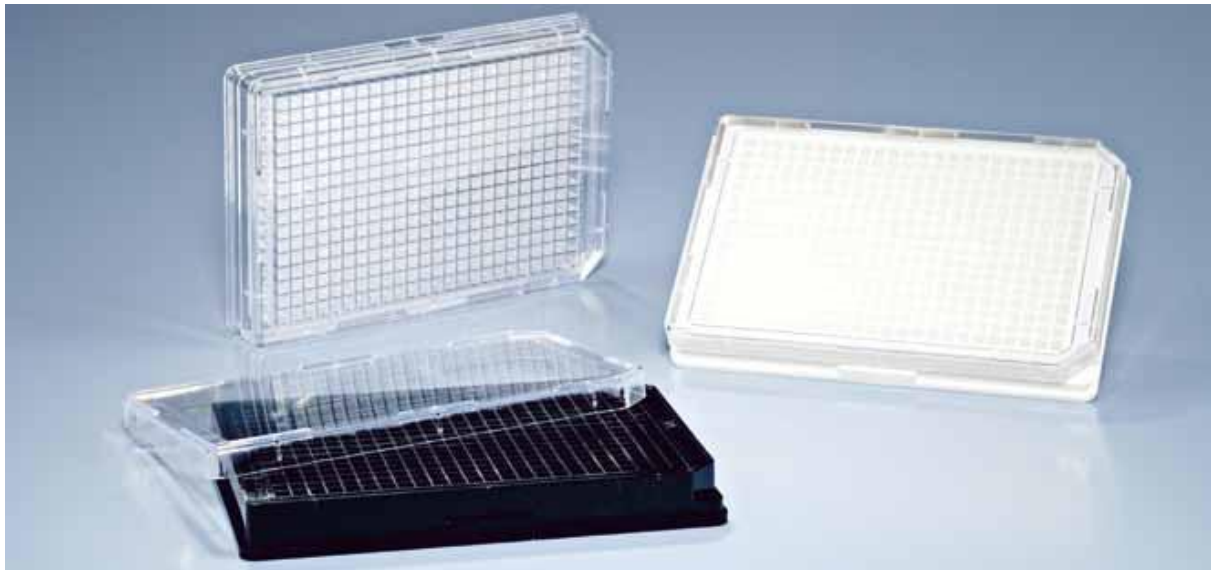


- > Available in white and black
- > High signal-to-noise ratio
- > Low background interference
- > Plasma treated for optimal growth conditions
- > Non-transparent flat bottom
- > Sterilized by gamma irradiation
- > Single packaged

Cat. No.	Material	Plate / Lid Colour	External Dimension (mm)	Well Dimension Ø (mm)	Growth Area (cm <sup>2</sup> )	Total Vol. / Well (µl)	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA30196	PS	White / Trans.	85.4 x 127.6	6.3	0.32	360	+	+	1	1
PAA30196X	PS	White / Trans.	85.4 x 127.6	6.3	0.32	360	+	+	1	50
PAA30296	PS	Black / Black	85.4 x 127.6	6.3	0.32	360	+	+	1	1
PAA30296X	PS	Black / Black	85.4 x 127.6	6.3	0.32	360	+	+	1	50

## 384 Well Microplates for High Throughput Assays

High Throughput Assays use automated systems for the economic handling of a huge number of samples. To minimize the working volume, 384 well microplates are recommended. PAA offers high quality 384 well microplates in transparent, black or white, each with a transparent lid. High signal-to-noise ratio with low background is a characteristic feature of these plates. Alphanumeric well coding ensures easy sample identification.



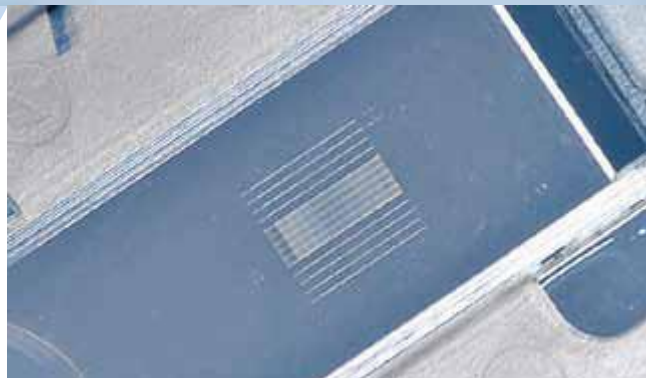
- > For colorimetric, fluorescence and luminescence assays
- > High optical qualities
- > Low background
- > High signal-to-noise ratio
- > Transparent, black or white
- > Flat bottom

Cat. No.	Material	Plate Colour	External Dimension (mm)	Total Vol. / Well (µl)	Surface Treated	Pieces/ Bag	Purchase Unit (pcs)
PAA31384	PS	Clear	85.4 x 127.6	120	–	10	10
PAA31384X	PS	Clear	85.4 x 127.6	120	–	10	40
PAA32384	PS	White	85.4 x 127.6	120	–	10	10
PAA32384X	PS	White	85.4 x 127.6	120	–	10	40
PAA33384	PS	Black	85.4 x 127.6	120	–	10	10
PAA33384X	PS	Black	85.4 x 127.6	120	–	10	40



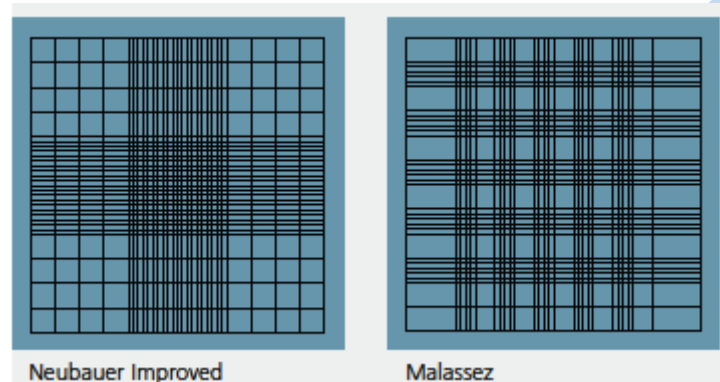


C-Chip Neubauer Improved / Malassez Hemocytometers are used in daily routine in cell culture, microbiology and haematology. The preparation of traditional glass chambers is a time-consuming and not reliably reproducible process that often ends with broken cover slips. PAA offers with the C-Chip Neubauer Improved and Malassez two disposable plastic hemocytometers for manual cell counting. They are very easy to use and the precise volume control leads to highly reproducible results. Two counting chambers are fitted with a clear grid pattern rich in contrast. The productivity is increased by eliminating cleaning steps. Redundancy of the cleaning step also reduces the risk of exposure to potentially infectious material.



Gentaur Molecular Products  
Voortstraat 49  
1910 Kampenhout, Belgium

- > Easy to use
- > Precise quantification
- > High reproducibility
- > No need for cover slips
- > No need for cleaning and reuse
- > Time and cost saving
- > Quartz grade optical plastic
- > Clearest grid pattern
- > Very light and unbreakable
- > Single packaged



Cat. No.	Grid	Chambers per Slide	Chamber Depth	Chamber Volume	Dimensions (mm)	Pieces / Bag	Purchase Unit (pcs)
PAA404040X	Malassez	2	100 $\mu\text{m}$	10 $\mu\text{l}$	25 x 75 x 1.6	1	50
PAA505050X	Neubauer Improved	2	100 $\mu\text{m}$	10 $\mu\text{l}$	25 x 75 x 1.6	1	50

## Tray Plate

Tray Plates are ideal for multiple cell culture applications. PAA provides a tray plate that can be used for mammalian cell culture. The rectangular shape of the tray dish provides a larger surface area compared to round type dishes and easy handling for any application. The external dimension of this single well plate is identical to standard multiwell plates.



- > Optically clear
- > High plate planarity
- > Surface treated for tissue culture
- > Sterilized by gamma irradiation

> Single packaged

Cat. No.	Material	External Dimension (mm)	Internal Dimension (mm)	Growth Area (cm <sup>2</sup> )	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA30001X	PS	127.6 x 85.6 x 16.2	109.5 x 73.5 x 11.6	80	+	+	1	50

## Square Dish

Square dishes are commonly used in cell culture applications, especially for mammalian cell culture. PAA offers a tissue culture treated square dish made of optically clear polystyrene. It is designed and tested for standard HTS systems for automatic colony picking. The large surface area and the gridded bottom are useful for tracing the location of individual cell colonies. The grid consists of thirty-six squares with alphanumeric coding.



- > Large surface area
- > Optically clear
- > High plate planarity
- > Available with grids for determination of plating efficiency
- > Surface treated for tissue culture
- > Alphanumeric coding
- > Sterilized by gamma irradiation

Cat. No.	Material	External Dimension (mm)	Internal Dimension (mm)	Growth Area (cm <sup>2</sup> )	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA10125X	PS	125 x 125 x 20	118.7 x 118.7 x 16.5	139	+	+	5	60

## IVF Culture Dish

*In vitro* fertilization (IVF) is a major treatment by infertility when other methods of assisted reproductive technology have failed. IVF culture dishes have been designed in consultation with embryologists and researchers for use with *in vitro* fertilization procedures. The vital criteria for an IVF product are sterility and non-toxicity. PAA offers IVF culture dishes for *in vitro* fertilization research. The 60 mm x 15 mm dish features a 20 mm centre well for oocyte culture and insemination, surrounded by a larger moat for humidification. The centre well holds 3 ml of medium while the outer well holds 10 ml. The IVF culture dishes are made of optical grade polystyrene for clear visualization by microscope. The easy grip provides convenient and secure handling. The dishes are tissue culture treated and sterile.

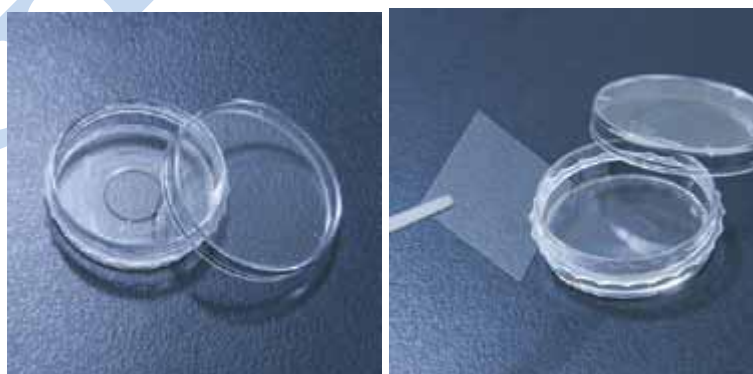


- > Useful for *in vitro* fertilization research
- > Optical grade polystyrene
- > Easy grip for secure handling
- > Surface treated for tissue culture
- > Sterilized by gamma irradiation

Cat. No.	Material	External Dimension (mm)	Internal Dimension (mm)	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA20260X	PS	60 x 15	20	+	+	10	500

### Confocal Dishes (Coverglass-Bottom Dishes)

The *in vitro* cultivation of cells under laboratory conditions is common practice for a huge variety of applications. The range of cell types is almost limitless, e.g. plant and insect cells as well as avian and mammalian cells. PAA offers confocal dishes made of polystyrene with coverglass bottom or removable coverglass insert. The dishes facilitate preparation of cells for microscopic analyses. They are suitable for use in high resolution and inverted microscopy, fluorescence imaging in living cells, confocal microscopy, phase contrast microscopy and micro-manipulation or anywhere where highest image quality is desired. A raised ring around the circumference of the dish provides a secure grip of dish and lid, reducing the risk of contamination due to unintentional removal of the lid.



- > Facilitated preparation of cells for microscopic analyses
- > Optically clear with low background fluorescence
- > Easy grip for secure handling

- > Sterilized by gamma irradiation
- > Hole size Ø: 13 mm
- > Coverglass size: 22 x 22 mm
- > Coverglass thickness: 0.13 ~ 0.16 mm

Cat. No.	Material	External Dimension (mm)	Type	Growth Area (cm <sup>2</sup> )	Working Volume (ml)	Surface Treated	Gamma Sterilized	Pieces / Bag	Purchase Unit (pcs)
PAA100350	PS	35 x 10	Coverglass bottom	9.4	3.0	–	+	5	5
PAA100350X	PS	35 x 10	Coverglass bottom	9.4	3.0	–	+	5	100
PAA200350	PS	35 x 10	Coverglass bottom	9.4	3.0	+	+	5	5
PAA200350X	PS	35 x 10	Coverglass bottom	9.4	3.0	+	+	5	100
PAA100351	PS	35 x 10	Coverglass insert	9.4	3.0	–	+	10	10
PAA100351X	PS	35 x 10	Coverglass insert	9.4	3.0	–	+	10	500

## Coverslips

The *in vitro* cultivation of cells under laboratory conditions is common practice for a huge variety of applications. The range of cell types is almost limitless, e.g. plant and insect cells as well as avian and mammalian cells. PAA offers disposable coverslips made of aclar, suitable for staining culture cells and high magnification microscopy. Aclar is a polychlorotrifluoroethylene (PCTFE) material useful for both tissue culture and electron microscopic purposes. It is crystal clear and features chemical inertness. In contrast to glass, aclar coverslips are UV light-transmissive and resistant to breakage. The surface treatment of the coverslips provides optimal cell attachment and growth.



- > Excellent microscopic properties
- > Resistant to breakage
- > Chemically inert
- > Surface treatment for optimal cell attachment and growth
- > Facilitates staining and fixation of cells
- > 110 µm thickness
- > Suitable for fractography
- > Non autoclavable

Cat. No.	Material	Dimension (mm)	Pieces / Bag	Purchase Unit (pcs)
PAA20009X	Aclar	9 x 0.11	100	200
PAA20012X	Aclar	12 x 0.11	100	200
PAA20018X	Aclar	18 x 0.11	100	200
PAA20025X	Aclar	25 x 0.11	100	200

## Cell Culture Plates with Inserts

Cell culture inserts are used in a variety of applications, including invasion, migration, transport, drug uptake, cellular polarization, chemotaxis, co-culture experiments and toxicity studies. PAA offers cell culture inserts with 6 or 24 well plates that closely mimic an *in vivo* environment, resulting in improved cell attachment, growth and differentiation of various cell types. The inserts are especially suited for quantitative analyses. The unique manufacturing process of the membrane ensures a precise pore diameter and a consistent pore size in experiments. The inserts have a planar surface and are due to their translucence and thinness ideal for microscopic works. Additionally, the staining inertness of the PC membrane ensures low background interference. The plates are compatible with automated cell seeding, feeding and washing systems.



- > Convenient usage
- > Consistent pore size
- > Compatible with automated systems
- > Packaged with multiwell plate (one plate per bag)
- > Distance from membrane to the bottom of the well: 0.8 – 1 mm
- > Nominal membrane thickness: 7 – 10  $\mu\text{m}$ , Pore Size: 0.4, 3.0 or 8.0  $\mu\text{m}$
- > Frame / membrane material: PS / PC
- > Sterilized by gamma irradiation

Cat. No.	Membrane Pore Size ( $\mu\text{m}$ )	Membrane Diameter (mm)	Growth Area ( $\text{cm}^2$ )	Working Volume (ml)	Gamma Sterilized	Well Format	Inserts / Plate	Plate / Bag	Purchase Unit (plates)
PAA35006X	0.4	24.0	4.52	1.5 – 2.5	+	6 well	6	1	4
PAA35106X	3.0	24.0	4.52	1.5 – 2.5	+	6 well	6	1	4
PAA35206X	8.0	24.0	4.52	1.5 – 2.5	+	6 well	6	1	4
PAA35024X	0.4	6.5	0.33	0.2 – 0.35	+	24 well	12	1	4
PAA35124X	3.0	6.5	0.33	0.2 – 0.35	+	24 well	12	1	4
PAA35224X	8.0	6.5	0.33	0.2 – 0.35	+	24 well	12	1	4