

## CultureWell™ Culture Systems and CultureWell™ Coverslips

**Table 1.** CultureWell™ product specifications.

Product	Type	Well Depth	Volume per Well	Quantity per Package
CultureWell™ MultiWell cell culture system (1 plate with 4 coverslips)				
C24762	2-wells per coverslip	1.0 mm	250–400 µL	10
C24763	2-wells per coverslip	2.0 mm	300–500 µL	10
C24764	3-wells per coverslip	1.0 mm	300–500 µL	10
C24765	4-wells per coverslip	1.0 mm	50–100 µL	10
C24766	8-wells per coverslip	1.0 mm	15–30 µL	10
C24767	8-wells per coverslip	1.0 mm	15–30 µL	2
C24768	50-wells per coverslip	1.0 mm	3–10 µL	10
CultureWell™ MultiWell Chambered Coverslips (24 mm × 50 mm)				
C24775	2-wells per coverslip	1.0 mm	250–400 µL	20
C24776	2-wells per coverslip	2.0 mm	300–500 µL	20
C24777	3-wells per coverslip	1.0 mm	300–500 µL	20
C24778	4-wells per coverslip	1.0 mm	50–100 µL	20
C24779	8-wells per coverslip	1.0 mm	15–30 µL	20
C24780	50-wells per coverslip	1.0 mm	3–10 µL	20
CultureWell™ MultiSlip cell culture system (1 polystyrene plate and lid with 1 insert)				
C24760	15 coverslips (12 mm) per insert	–	–	10
C24761	8 coverslips (18 mm) per insert	–	–	10
CultureWell™ Chambered coverglass for cell culture				
C37000	16-wells per coverglass (0.4 cm <sup>2</sup> area per well)	–	100–250 µL	8
CultureWell™ SecureSlip™ supported coverglass (5 pouches per package)				
C24759	15 SecureSlips™ (12 mm × 12 mm) per pouch	–	–	75
CultureWell™ Accessories				
C24769	CultureWell™ cell culture plate	–	–	10
C24770	CultureWell™ coverslip divider	–	–	4

## Introduction

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### **CultureWell™ MultiWell Cell Culture Systems**

The CultureWell™ MultiWell cell culture systems provide an integrated set-up for preparing cultured cells for staining and imaging. Each system uses medical-grade silicone gaskets preassembled with standard optical-quality coverslips in cell culture plates. The entire system is provided sterile and ready to use. Individual chambered coverslips are also available (Cat. no. C24775). The CultureWell™ cell culture chambered coverslips are convenient for preparing cultured cells for staining and imaging. The wells have 9 mm centers for use with multichannel or automated pipettors. The chambered coverslips use medical-grade silicone gaskets with standard optical-quality coverslips, and are provided sterile and ready to use.

### **CultureWell™ MultiSlip™ Coverslip Inserts**

The CultureWell™ MultiSlip™ cell culture systems provide an integrated set-up for preparing cultured cells for staining and imaging. Each system uses medical-grade silicone gaskets preassembled with standard optical-quality coverslips in cell culture plates. The MultiSlip™ insert with 8 (18 mm × 18 mm) or 15 (12 mm × 12 mm) No. 1.5 German coverglass per insert are sterile and ready to use in conventional 86 mm × 128 mm culture plates. Staining and washing procedures may be performed with MultiSlip™ inserts in the plate, or the silicone backed coverglass may be removed individually and affixed to glass microscope slides. Alternately, inserts may be easily removed for batch processing in glass staining dishes. The product is ideally suited for the culture of cells where pretreatment of glass surface with a biological coating is required. Simply add the sterile solution to the plate, incubate, and aspirate. Coating is applied evenly to one side of the glass only, with no overlapping, handling with forceps, or breakage.

### **CultureWell™ SecureSlip™ Supported Coverglass**

The CultureWell™ SecureSlip™ supported coverglass is available as fifteen 12 mm × 12 mm No. 1.5 desag coverslips each on a silicone base attached to a plastic sheet. The coverslips on the silicone base prevent movement during cultivation. The base also prevents cell growth on the back surface which simplifies identification of the cell growth side of the coverslip. Also, the silicone also acts as a hydrophobic barrier to isolate liquid reagents on glass. Individual coverglass with silicone backing can be adhered to a cell culture dish or plate. These can be easily removed one at a time from the dish during culture. Once removed, coverglass can be affixed to a microscope slide by means of the tacky silicone backing for routine processing, or placed cell side down onto a drop of reagent using the silicone backing as a cover to prevent evaporation. Since the coverslip adheres by electrostatic charge, the silicone backing removes easily (by peeling) for conventional mounting on microscope slides. During culture, cells may be imaged without interference from the optical grade silicone.

### **CultureWell™ Chambered Coverglass**

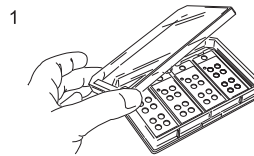
The CultureWell™ chambered coverglass for cell culture is ideal for cell culture and fluorescence imaging applications. The chambered coverglass—provided sterile and ready to use—contains 16 wells that can each hold up to 250 µL, allowing cells to be cultured in a number of different conditions on a single slide. When the cells are ready to be imaged, coverglass removal is made easy by the use of a simple tool (included) that separates the parts without the need for excessive force, eliminating the risk of coverglass breakage. Frosted microscope slides are also provided for mounting. A sample size containing two chambered coverglasses and the removal tool is also available (Cat. no. C37005).

### **CultureWell™ Cell Culture Plate**

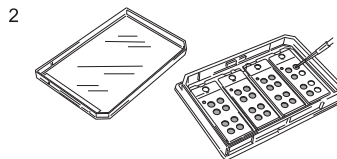
The CultureWell™ cell culture plate provides a plate designed for use with CultureWell™ cell culture products.

## Using CultureWell™ MultiWell Cell Culture System

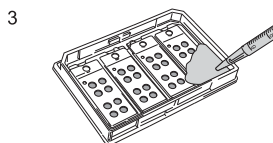
**1.1** Aseptically remove a CultureWell™ plate from the package. Remove plate cover to expose MultiWell Chambers (Figure 1).



**1.2** Pipette cells into individual wells (Figure 2) in a volume of 30–40  $\mu\text{L}$  (8-well chambers), 90–100  $\mu\text{L}$  (4-well chambers), 300–400  $\mu\text{L}$  (2-well chambers). Allow the cells to attach for 1–24 hours in a humidified  $\text{CO}_2$  incubator.

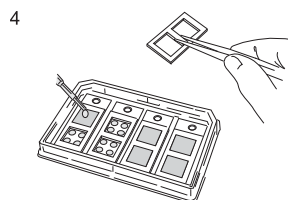


**1.3** After cells are attached, flood the plate with 15 mL culture medium (Figure 3).

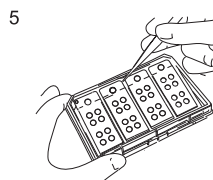


Alternately, plates and inserts may be flooded with a suspension of cells in 15 mL medium and incubated to allow the cells to attach to coverslips.

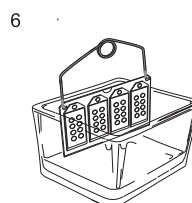
**1.4** Cultures may be sub-divided or isolated by applying Press-to-Seal™ silicone isolators available separately (Figure 4).



**1.5** After cultivation, cells may be washed, fixed, and stained in the plate using standard protocols.

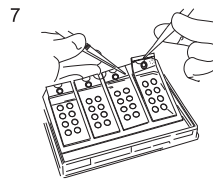


**1.6** To remove the insert from the plate, grasp the insert at the central top notch with forceps and pull slowly upwards and away from you (at an angle close to the plate) to release the silicone backing from the plate surface (Figure 5).

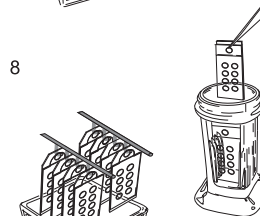


**1.7** Coverslips may be stained and washed using conventional staining dishes by attaching a stainless steel handle to the insert frame (Figure 6).

**1.8** Coverslips with gaskets attached may be individually separated from an insert by first removing the insert from the plate as described above. If desired, the notched edge of the insert may be rested on the edge of the plate (Figure 7).



**1.9** Using forceps, grasp the silicone backing affixed to the coverslip at the notch in the insert and pull slowly towards you while gently pushing the insert frame downwards (Figure 7).

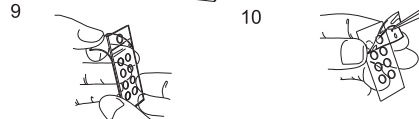


**1.10** Remove coverslips with the silicone gasket still attached to provide stability and protection from breakage.

**1.11** Individual coverslips may be placed in coplin jars or any holder designed for standard microscope slides (Figure 8).



**1.12** To mount coverslips on glass microscope slides, first remove the silicone backing and gasket by holding the sides of the coverslip and gently peeling away the silicone backing (Figure 9) and then the silicone gasket (Figure 10).



## Using CultureWell™ MultiWell Chambered Coverslips

- 2.1 Place on workbench clear side up (Figure 1).
- 2.2 Aseptically peel back the sterile pouch with top plastic liner to expose MultiWell coverslip (Figure 2).
- 2.3 Using sterile forceps, lift the coverslips with the backing cover (Figure 3).
- 2.4 Remove the lid from a CultureWell™ plate or a sterile 100 mm culture dish and place the coverslip into the plate with silicone gasketed wells facing upwards (Figure 4).

- 2.5 Pipette cells into individual wells (Figure 5) in a volume of 30–40  $\mu\text{L}$  (8-well chambers), 90–100  $\mu\text{L}$  (4-well chambers), 300–400  $\mu\text{L}$  (2-well chambers). Allow the cells to attach for 1–24 hours in a humidified  $\text{CO}_2$  incubator.

- 2.6 After cells are attached, flood the plate with 20 mL culture medium (Figure 5).

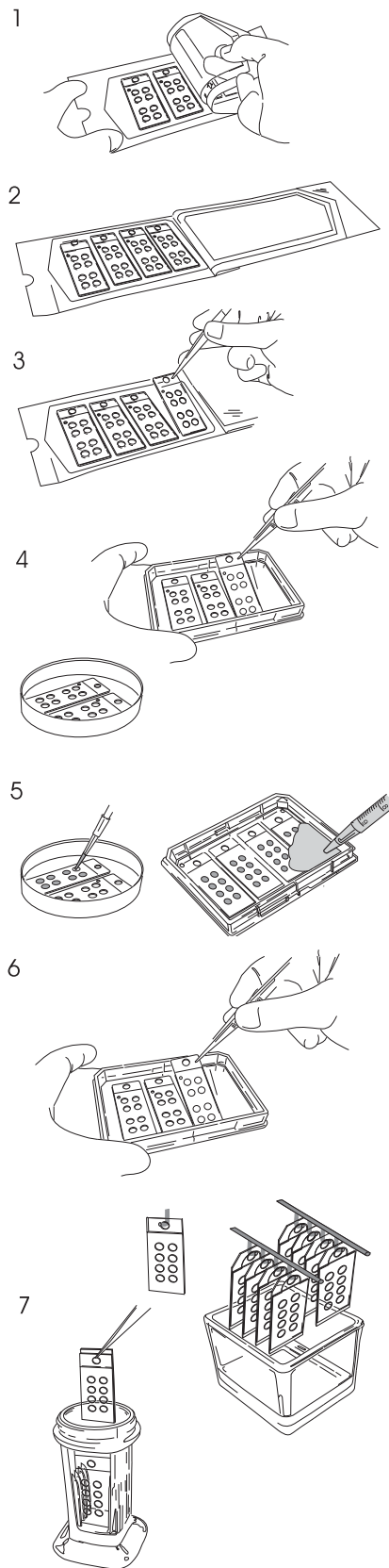
Alternately, plates and coverslips may be flooded with a suspension of cells in 20 mL medium and incubated to allow the cells to attach to coverslips. Cells do not attach to the silicone gaskets.

- 2.7 After cultivation, cells may be washed, fixed, and stained in the plate or in staining dishes using standard protocols.
- 2.8 To remove a MultiWell coverslip from the plate, grasp the silicone with forceps and pull slowly upwards and away from you (at an angle close to the plate, Figure 6).
- 2.9 Coverslips are removed with the silicone gasket still attached to provide stability and protection from breakage. Individual gasketed coverslips may be placed in coplin jars or any holder designed for standard microscope slides (Figure 7).

MultiWell coverslips may be placed in culture dishes for antibody/hybridization, and washing steps (Figure 8).

- 2.10 To mount coverslips on glass microscope slides, first remove the silicone gasket by gently peeling away the silicone gasket (Figure 9).

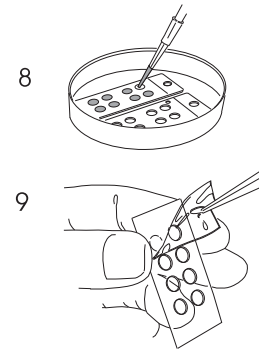
Specimens may also be mounted using aqueous media by filling wells and pressing another coverslip to the gasket.



### Clean and Re-use of MultiWell Gaskets

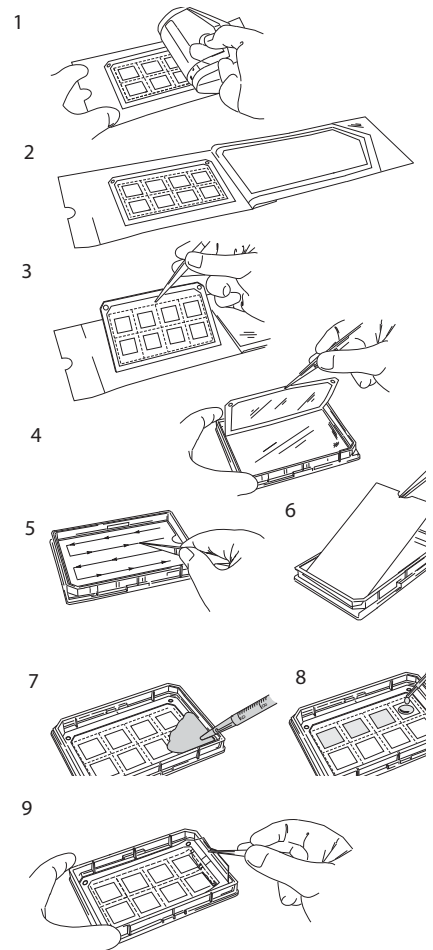
Rinse off reagents immediately after each use. Wash silicone gaskets using distilled water and if necessary mild detergent suitable for cell culture. Do not soak gaskets in detergent. Rinse thoroughly with distilled water and allow gaskets to dry. Just prior to applying a new coverslip, use a piece of adhesive tape to clean lint and debris from the gasket surface.

Place a clean, dry 24 mm × 50 mm glass coverslip onto the silicone gasket and press gently to seal. Place gasketed coverslips individually, into glass petri dishes (silicone side up), wrap with aluminum foil, and sterilize by autoclaving. Allow coverslips to cool and dry completely before use.



## Using CultureWell™ MultiSlip™ Cell Culture System

- 3.1 Place on a workbench as shown (Figure 1).
- 3.2 Aseptically peel back the sterile pouch with top plastic liner to expose the MultiSlip™ insert (Figure 2).
- 3.3 Using sterile forceps, lift the MultiSlip™ insert with the backing cover. (Figure 3).
- 3.4 Remove the lid from a CultureWell™ plate, and place the insert into the plate with the backing cover upward (Figure 4).
- 3.5 Affix the insert to the surface of the tray by pressing gently but firmly on the surface of the backing cover. Use sterile forceps or a pipette tip and press over the surface (Figure 5).
- 3.6 Remove and discard the backing cover (Figure 6).
- 3.7 To culture cells in CultureWell™ plates, flood the plate with a suspension of cells in medium (10–20 mL). Allow the cells to attach for 1–24 hours in a humidified CO<sub>2</sub> incubator (Figure 7).
- 3.8 After cultivation, cells can be washed, fixed, and stained in the plate using standard protocols. The hydrophobic silicone creates a fluid barrier to facilitate antibody incubations on coverslips (Figure 8).
- 3.9 To remove a MultiSlip™ insert from a plate, grasp the silicone centrally at the side or top of the insert with forceps and pull slowly upward releasing the silicone backing from the plate surface (Figure 9).



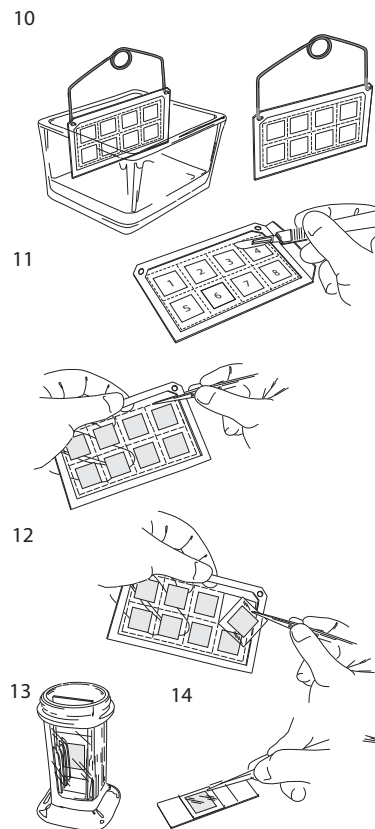
**3.10** Coverslips may be stained and washed using conventional staining dishes by attaching a stainless steel handle to the insert frame (Figure 10).

**3.11** Individual silicone backed coverslips are separated from an insert after first removing the insert from the plate as previously described (Figure 9). Separate silicone backed coverslips by grasping the layer of silicone backing each coverslip and peeling it gently away from the silicone under layer (Figure 11). Go slowly giving silicone layer time to detach. (Figure 12).

Alternately, coverslips may be separated by cutting them free of the underlayer.

**3.12** Coverslips can be affixed to a slide by means of the tacky silicone backing for routine processing of slides (Figure 13).

**3.13** The silicone backing can also be used to create a water barrier for probe incubations under the coverslip inverted and mounted on a slide (Figure 14). The silicone backing can also be easily removed by peeling it away from the coverslip for routine slide mounting.



## Using CultureWell™ Chambered Coverslips

**4.1** Cell culture may be performed using conventional methods.

**4.2** Gently decant media (Figure 1).

**4.3** Insert the slip separator string between gasket tabs as shown. Pull slip separator along the length of the assembly to separate silicone coverglass gasket and chambered well gasket (Figure 2).

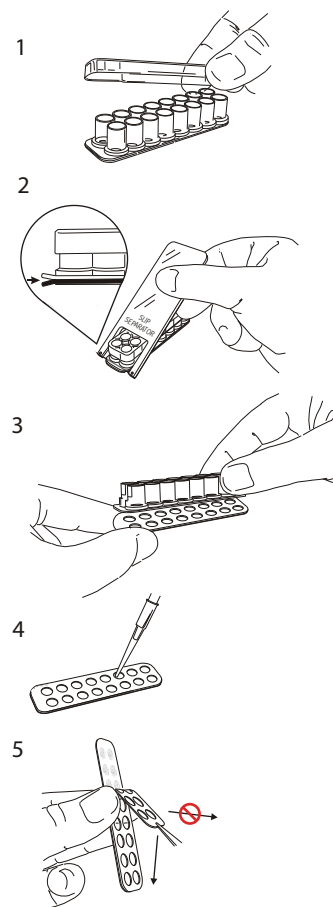
**4.4** Gently remove coverglass with attached gasket (Figure 3).

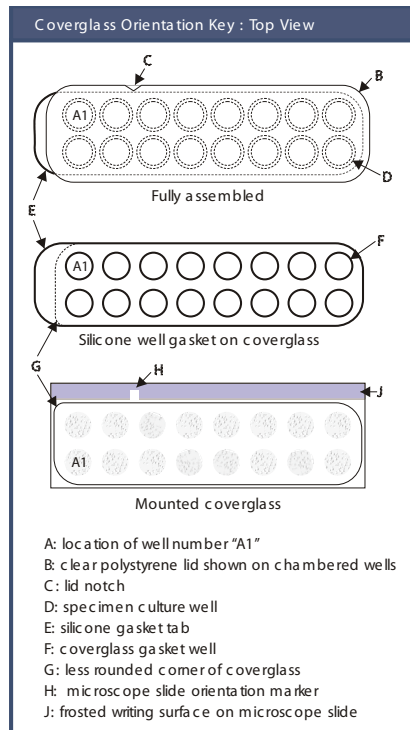
**4.5** Small volume incubation may be performed using the wells formed by the silicone gasket (Figure 4).

**4.6** Aqueous mounting of specimens may be performed with wells in place, by filling wells with media and pressing a coverglass or microscope slide to the gasket surface.

**4.7** To remove the silicone gasket from the coverglass, peel slowly at a sharp angle to the glass (Figure 5).

**4.8** For specimen mounting, match the less rounded corner of the coverglass to location feature (H) on the blue frosted edge of the microscope slide (provided). Refer to the orientation key (Figure 6).

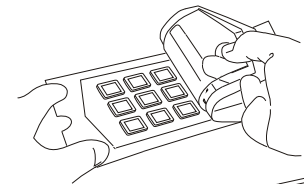




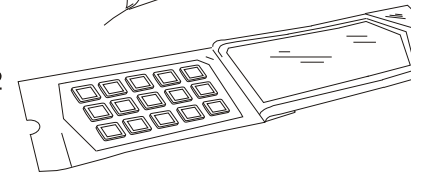
## Using CoverWell™ SecureSlip™ Glass Coverslips

- 5.1 Place on a workbench (Figure 1).
- 5.2 Aseptically peel back the sterile pouch with top plastic liner to expose the SecureSlip™ glass coverslips (Figure 2).
- 5.3 Using sterile forceps, lift individual SecureSlip™ coverslips with the silicone backing. (Figure 3). Lift slowly allowing time for silicone to release and pull at an angle close to the plastic carrier.
- 5.4 Remove the lid from a CultureWell™ plate or culture dish, and place SecureSlip™ coverslips into the plate (Figure 4).
- 5.5 To culture cells on SecureSlip™ glass coverslips, flood the plate with a suspension of cells in medium. Allow the cells to attach for 1–24 hours in a humidified CO<sub>2</sub> incubator (Figure 5).
- 5.6 After cultivation, cells can be washed, fixed, and stained in the plate using standard protocols. The hydrophobic silicone creates a fluid barrier to facilitate antibody incubations on coverslips.

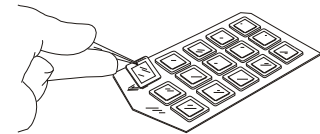
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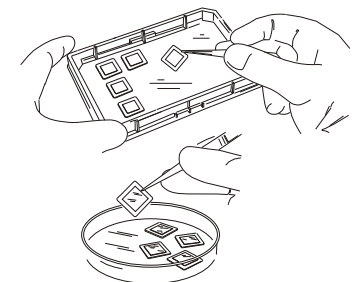
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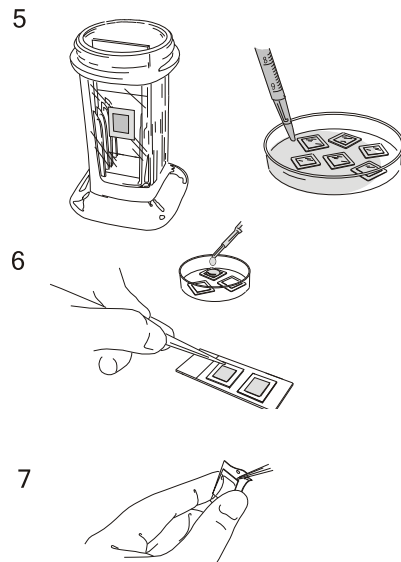


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5.7 To remove a SecureSlip™ coverslip from a plate, grasp the silicone backing with forceps and pull **slowly** upward releasing the silicone backing from the plate surface.

5.8 Coverslips can be affixed to a slide by means of the tacky silicone backing for routine processing of slides. The silicone backing can also be used to create a water barrier for probe incubations under the coverslip inverted and mounted on a slide (Figure 6). The silicone backing can also be easily removed by peeling it away from the coverslip for routine slide mounting (Figure 7).



**Product List** Current prices may be obtained from our website or from our Customer Service Department.

Cat. no.	Product Name	Unit Size;
C24759	CultureWell™ SecureSlip™ supported coverglass, MS-12, 12 mm × 12 mm coverslips *set of 75*	1 set
C24760	CultureWell™ MultiSlip™ cell culture system MSI-12 *plate and insert, fifteen 12 mm coverslips per insert* *set of 10*	1 set
C24761	CultureWell™ MultiSlip™ cell culture system MSI-18 *plate and insert, eight 18 mm coverslips per insert* *set of 10*	1 set
C24762	CultureWell™ MultiWell cell culture system CWI 2R-1.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, two 1 mm-deep wells per coverslip* *set of 10*	1 set
C24763	CultureWell™ MultiWell cell culture system CWI 2R-2.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, two 2 mm-deep wells per coverslip* *set of 10*	1 set
C24764	CultureWell™ MultiWell cell culture system CWI 3S-1.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, three 1 mm-deep wells per coverslip* *set of 10*	1 set
C24765	CultureWell™ MultiWell cell culture system CWI 4R-1.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, four 1 mm-deep wells per coverslip* *set of 10*	1 set
C24766	CultureWell™ MultiWell cell culture system CWI 8R-1.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, eight 1 mm-deep wells per coverslip* *set of 10*	1 set
C24767	CultureWell™ MultiWell cell culture system CWI 8R-1.0 TS *plate and insert, four 24 mm x 50 mm coverslips per insert, eight 1 mm-deep wells per coverslip* *set of 2*	1 set
C24768	CultureWell™ MultiWell cell culture system CWI 50R-1.0 *plate and insert, four 24 mm x 50 mm coverslips per insert, fifty 1 mm-deep wells per coverslip* *set of 10*	1 set
C24769	CultureWell™ cell culture plate *set of 10*	1 set
C24770	CultureWell™ coverslip divider *set of 4*	1 set
C24775	CultureWell™ multiwell chambered coverslip CWCS 2R-1.0 *24 mm x 50 mm coverslips, two 1 mm-deep wells per coverslip* *set of 20*	1 set
C24776	CultureWell™ multiwell chambered coverslip CWCS 2R-2.0 *24 mm x 50 mm coverslips, two 2 mm-deep wells per coverslip* *set of 20*	1 set
C24777	CultureWell™ multiwell chambered coverslip CWCS 3S-1.0 *24 mm x 50 mm coverslips, three 1 mm-deep wells per coverslip* *set of 20*	1 set
C24778	CultureWell™ multiwell chambered coverslip CWCS 4R-1.0 *24 mm x 50 mm coverslips, four 1 mm-deep wells per coverslip* *set of 20*	1 set
C24779	CultureWell™ multiwell chambered coverslip CWCS 8R-1.0 *24 mm x 50 mm coverslips, eight 1 mm-deep wells per coverslip* *set of 20*	1 set
C24780	CultureWell™ multiwell chambered coverslip CWCS 50R-1.0 *24 mm x 50 mm coverslips, fifty 1 mm-deep wells per coverslip* *set of 20*	1 set
C37000	CultureWell™ chambered coverglass for cell culture *sixteen wells per coverglass* *set of 8*	1 set
C37005	CultureWell™ chambered coverglass for cell culture *sixteen wells per coverglass* *set of 2*	1 pack



## Contact Information

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probesorder@invitrogen.com

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