Correlative Microscopy Coverslips®

NEW

PRODUCT INFORMATION

A unique film reticle for use in Correlative Microscopy. Designed specifically to allow identification and location of a particular area of interest under brightfield or fluorescence microscopes and then sectioning for electron microscopy.

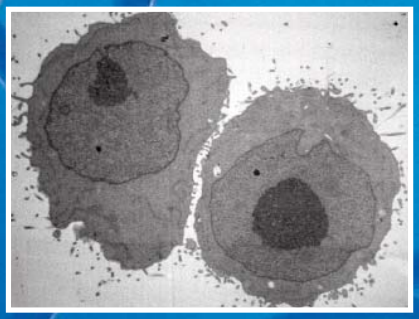
Products developed in conjunction with Nacer Benmeradi, PhD of CNRS Toulouse and Delta Microscopies, France.

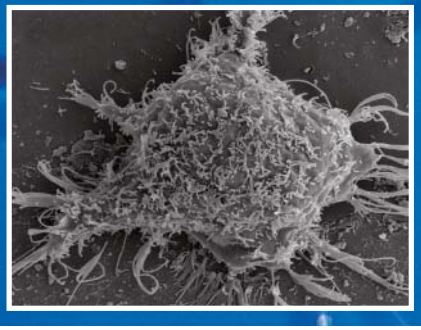
Reticle film has been thoroughly tested with cell culture

- Good growth of cell culture (equivalent to conventional media)
- Good adhesion to the substrate without cell polylysine

Physical and chemical qualities

- Resistant to normal chemicals used in electron microscopy
- No oxygen retention, compatible resin LR White
- Good optical quality in brightfield & UV fluorescence
- Excellent transparency
- Does not deform at temperatures (positive 100C and negative liquid N_2)
- Rigid, does not float in the middle of culture
- Easy to handle and cut with a knife or micro-punch
- Simple sterilisation using alcohol or UV
- Detaches easily from resin after polymerisation
- Low cost





Applications: light microscopy, fluorescence, scanning electron microscopy (SEM), transmission electron microscopy (TEM), high-pressure cryofixation, ...

How to use the Correlative Microscopy Coverslip

1- Sterilise the coverslip with alcohol, then dry and add the culture.

2- Ensure that the grid is positioned correctly so that the text is readable.

3- Observe your cell culture using light microscopy (transmitted and / or fluorescence) and identify the area of interest (Fig. 1 and 2).

4- Record the images needed, and note the co-ordinates of the squares where there are cells of interest (Fig. 1 and 2 show co-ordinate 8C).

5- Fix, dehydrate and embed with resin for examination by transmission electron microscopy.

6- At the end of the embedding procedure, invert a BEEM type capsule filled with resin onto the coverslip covering the selected cells of interest (Fig. 3).

7- Cure and detach the coverslip (Fig. 4), the footprint of the grid (Fig. 5) allows location of the position. Trim the block (Fig. 6) in the selected area then make cuts using an ultramicrotome.

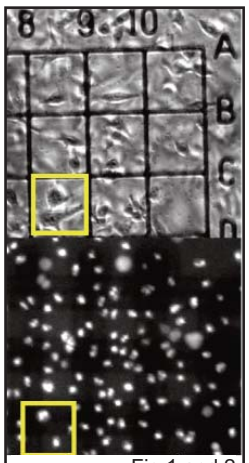


Fig 1 and 2


Fig 3

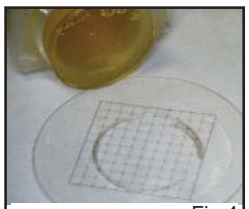


Fig 4

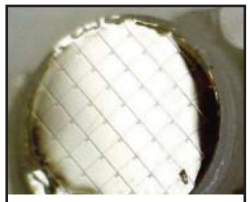
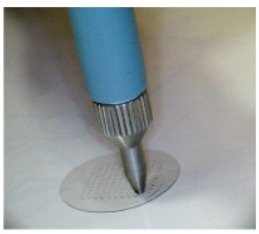
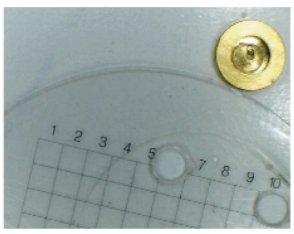


Fig 5


Fig 6

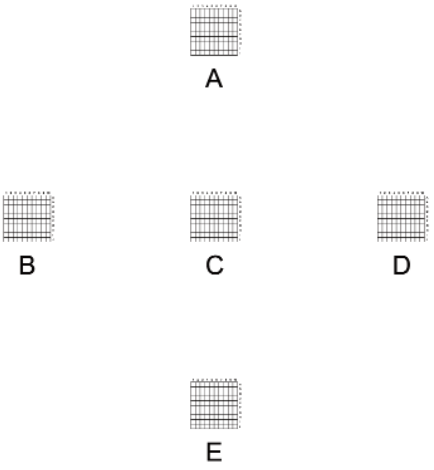
Punching the area of interest for cryofixation

How to choose the most appropriate coverslip for your application

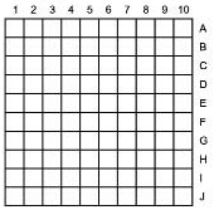
Pattern code	Number of squares	Surface covered	Unit size of each square	Average number of cells per square unit (eg HeLa cell)
CMC34A	100	5x1mm²	0.01 mm²	2-3
CMC71	200	100 mm²	0.5 mm²	20-25
CMC35	100	100 mm²	1 mm²	40-50

Grid Schematics

CMC34A

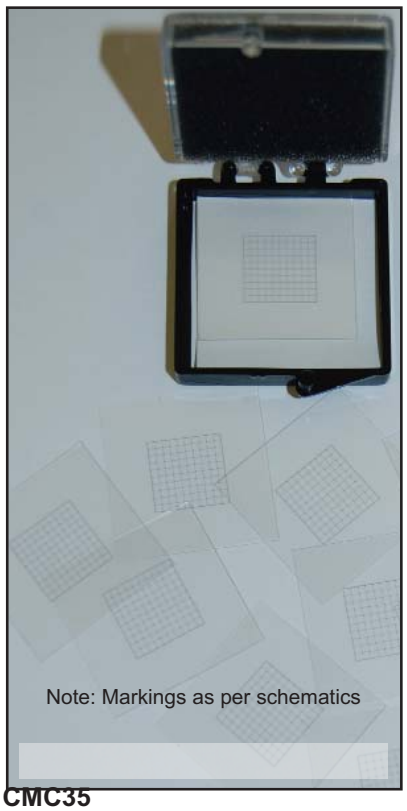


GRID DETAIL VIEW



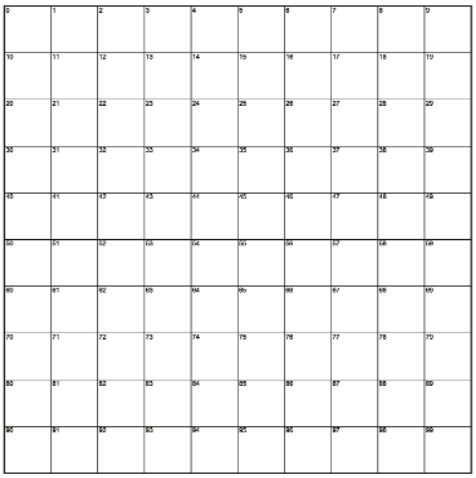
A

CMC34A
10x10 grids of 0.1mm squares at 5 positions. Indexed 1-10 along top and A-J down side

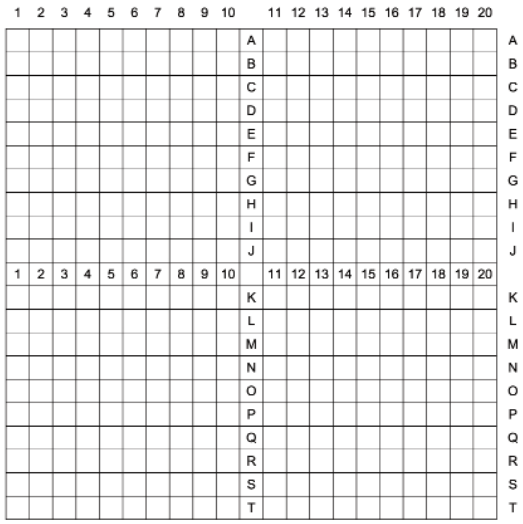


CMC35
10x10 grids of 1mm squares. Each square individually indexed 0-99

CMC35



CMC71



CMC71
20x20 grid of 0.5mm squares. Indexed 1-20 along top, A-T down side and on centre cross

Ordering Information

Pattern reference	Description	Order code
CMC34A	10 x 10 grid of 0.1mm squares at 5 positions identified as A-E, indexed 1 – 10 along top and A – J down the side	G493-01
CMC35	10 x 10 grid of 1mm squares, each square individually identified 0 to 99	G493-10
CMC71	20 x 20 grid of 0.5mm squares, indexed 1 – 20 along top, A – T down the side and on centre cross	G493-05

All Correlative Microscopy Coverslips® are produced on a polyester based film, 0.18mm thick, 22mm x 22mm. 25pcs per box.

Other patterns, grid sizes and film sizes are available to special order.