

PRODUCT DESCRIPTION

Rigidity of the substrate on which adherent cells are cultured can have profound effects on cell functions and gene expression. *Softsubstrates™* multiwell plates make it possible to culture cells on substrates with well-defined rigidities covering a broad physiological range.

On the bottom of each *Softsubstrates™* well, there is a thin layer of specially formulated biocompatible silicone gel, whose elastic modulus, E , (rigidity) is accurately measured for each batch. The surfaces of the gels are functionalized with reactive groups that form covalent bonds with amines on proteins. This functionalization is stable and the reaction does not require a catalyst, facilitating coating of the gel surfaces with matrix proteins and plating of cells on the gel substrates.

The silicone gels are firmly bonded to the plates, and unlike hydrogels (such as polyacrylamide gels), silicone gels are not susceptible to hydrolysis and do not dry or swell. In addition, the silicone gels are resilient and resistant to tearing and cracking, and their elastic moduli (rigidities) remain practically unchanged during extended storage times. The silicone substrates are optically clear and have a near zero autofluorescence.

Softsubstrates™ products accommodate the harvesting of cells using enzymes such as trypsin and collagenase. There is no biochemical breakdown of the substrate during the enzyme treatment, and there are no residuals of the substrate in samples recovered from a *Softsubstrates™* plate.

INSTRUCTIONS:

Store *Softsubstrates™* products in a dry place and avoid exposure to direct light.

Note: Exposure to moisture and UV light might compromise the functionalization of the gel surfaces and change mechanical properties of the gels.

1. To coat gel surfaces with an extracellular matrix (ECM) material, such as collagen I, prepare an ECM solution in pre-warmed (37 °C) pH 7.4-9 amine-free buffer (such as 1X DPBS) and dispense 3 ml of the solution into a well of a 6-well plate or 1 ml into a well of 12-well plate.

Note: Pre-warming to 37 °C helps preventing the formation of air bubbles.

Note: Because silicone gel surfaces are hydrophobic, their coating requires larger volumes of media than coating of substrates made of plastics.

Note: Coating of the gel surfaces with polylysine has proved to be inefficient and is not recommended.

2. Incubate the ECM solution at room temperature for 30-60 min.

3. Aspirate the solution and rinse coated surfaces twice with DPBS or culture medium. Leave ~2.5 ml of medium per well in a 6-well plate or ~1 ml per well in a 12-well plate to keep the gel surface covered.

Note: Do not allow gel surfaces to dry. Drying may cause severe damage, especially with soft gels ($E < 8$ kPa).

4. Coated gel substrates are ready for use.

Disclaimer:

This product is for R&D use only and is not intended for human or other uses. Please consult the Materials Safety Data Sheet for information regarding hazards and safe handling practices.