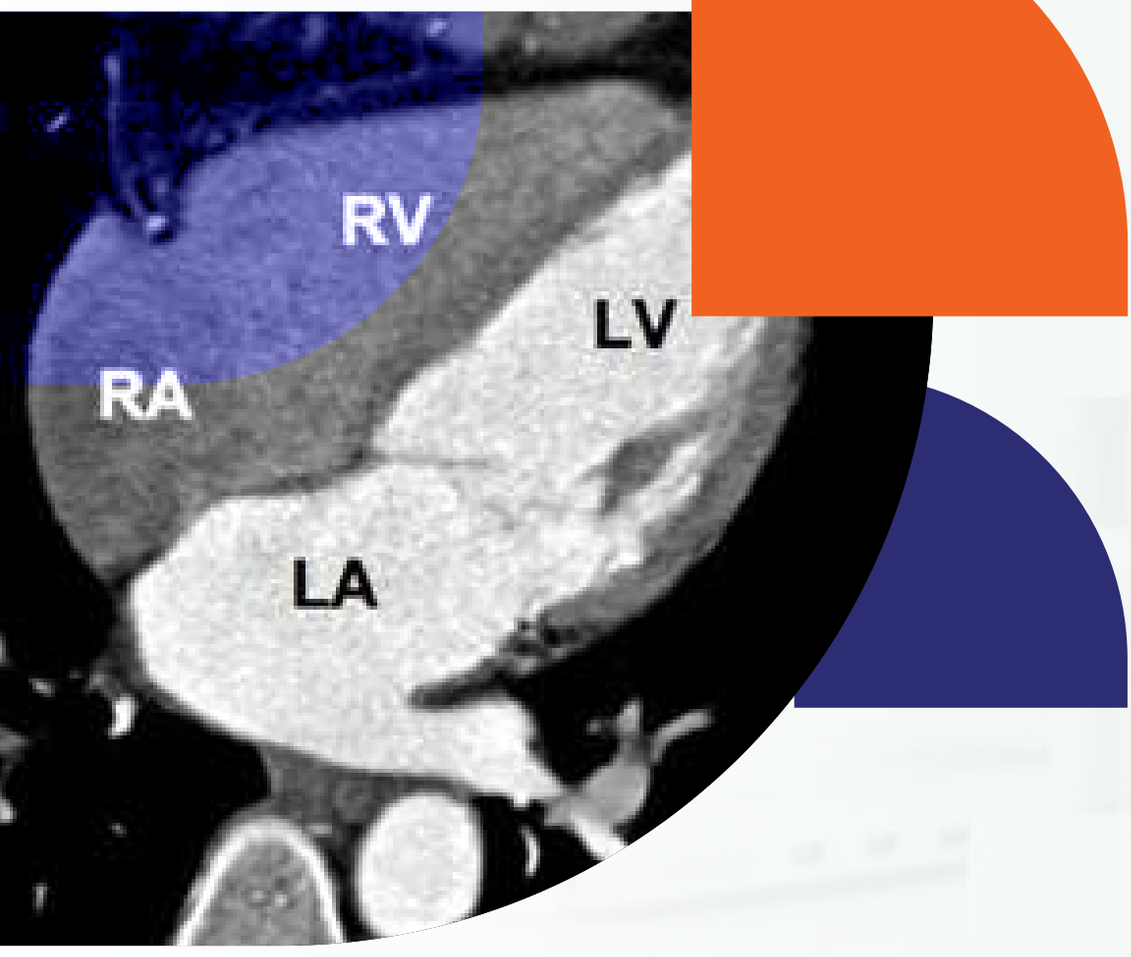
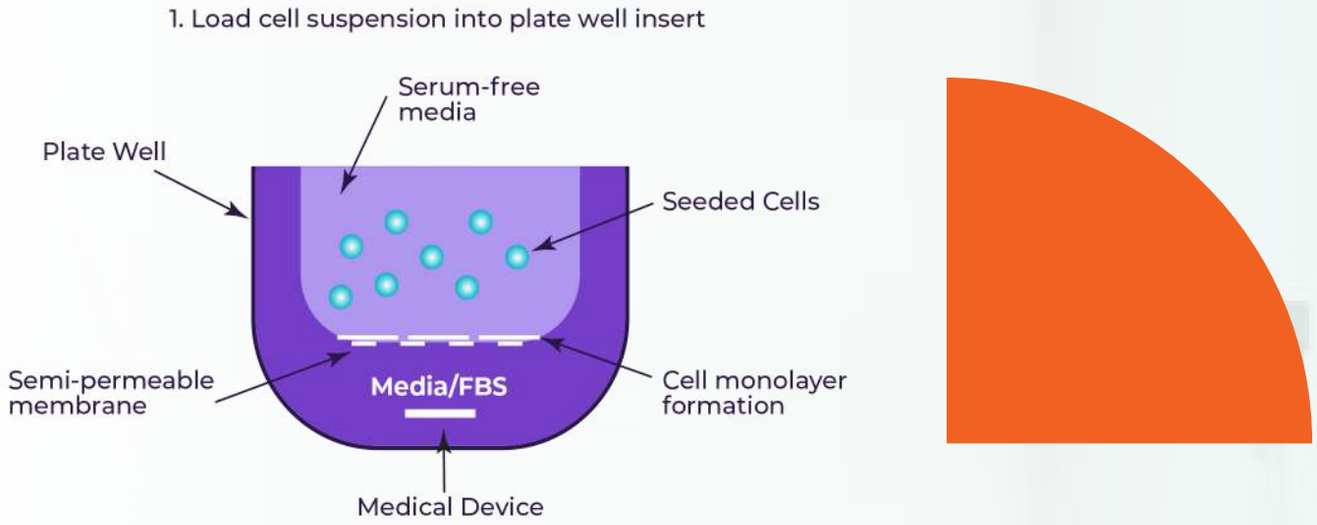
CMDC Labs

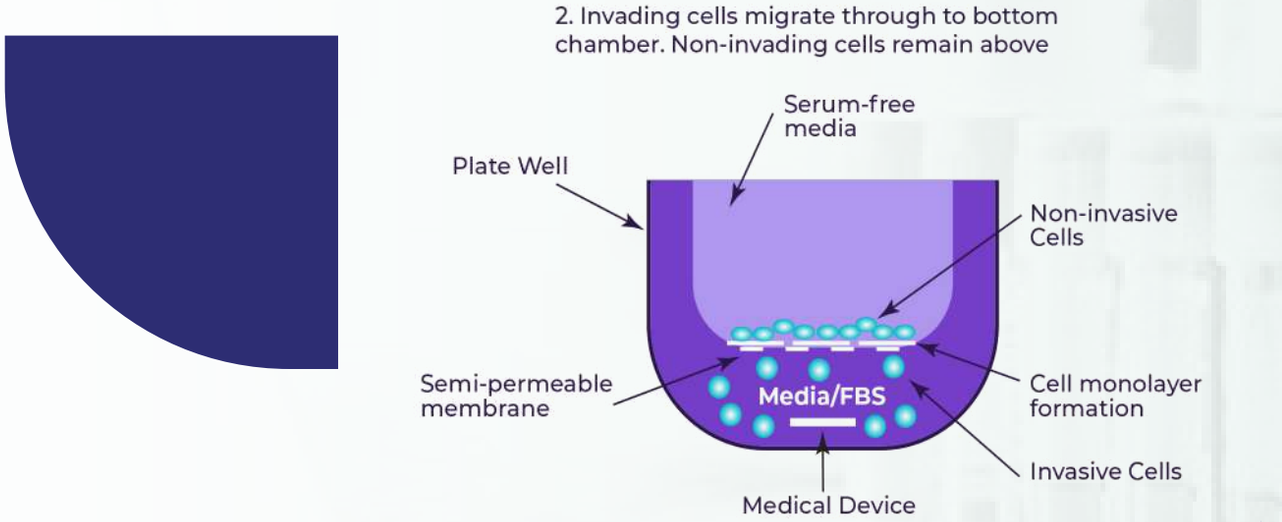
CT CHAMBER
TECHNIQUE

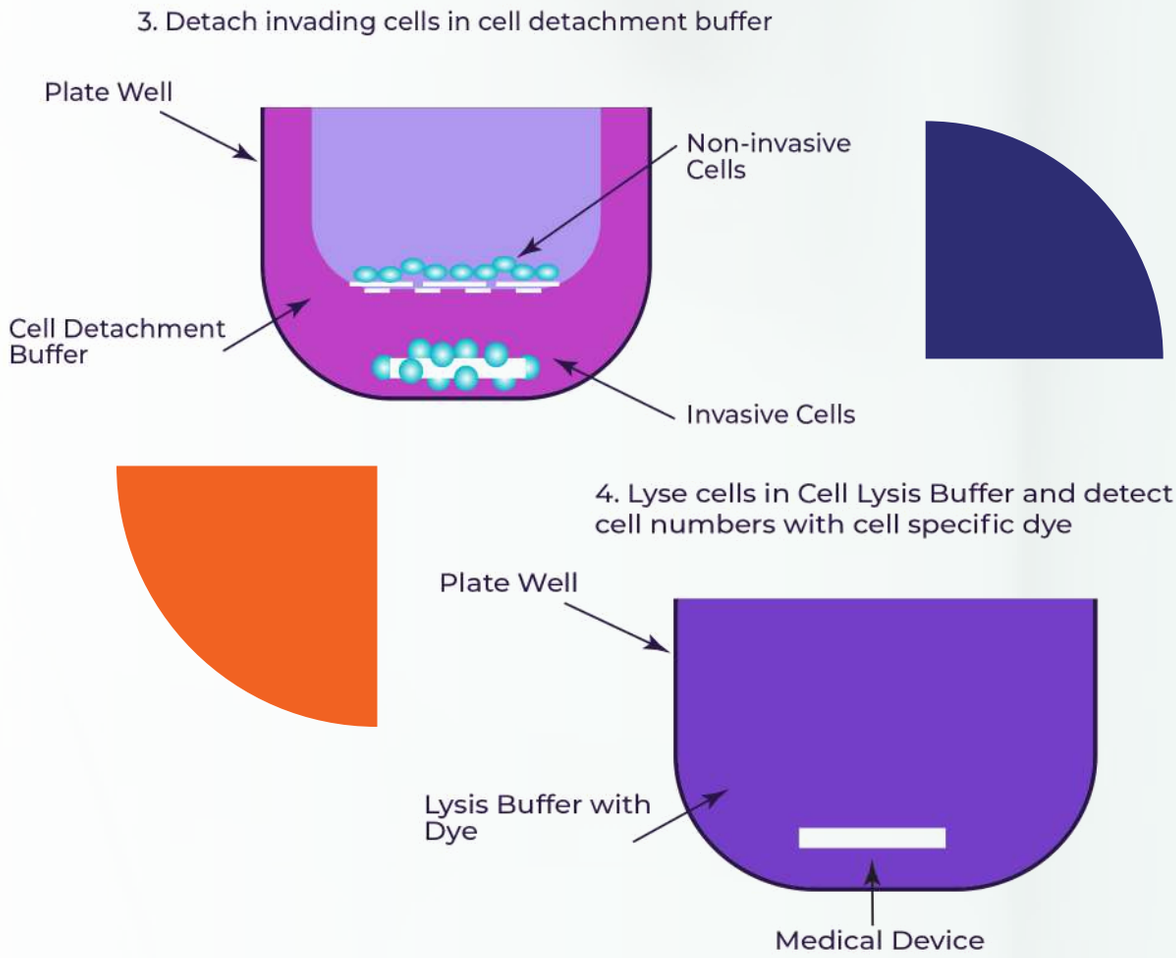


Making the Unknown Known...

Numerous techniques, such as scratch assays, cell-exclusion zone assays, microfluidic-based assays, and Boyden Chamber assays, can be used to analyze cell migration. The CMDC Labs proprietary **CT Chamber Test** is the only cell migration method that can be used to test the surface of a medical device. This can be used to test cellular reaction to a surface, immune response to a surface or bacteria reaction to a surface.







The CT Chamber technology makes use of a hollow plastic chamber that is porous membrane-sealed at one end. This chamber hangs over a bigger well that might have medium, chemoattractant, immune cells or other biological testing agents in it. Once placed inside the chamber, cells may travel to the opposite side of the membrane by passing through the pores. After staining, migratory cells are counted.

The pore diameter of the membrane is typically 3 to 12 µm in a normal CT experiment and is chosen to fit the subject cells. A smaller pore size makes it more difficult for a migrating cell to transverse the membrane. Lymphocytes (10 µm) may go through pores as small as 0.3 µm, whereas the majority of cells, which vary in size from 30 to 50 µm, can move effectively through openings of 3 to 12 µm.

PORE SIZE IS IMPORTANT!
HOW TO DECIDE WHICH PORE SIZE IS BEST FOR YOUR CELLS:

Leukocyte or lymphocyte migration is appropriate for pores with a diameter of 3 µm. A fraction of fibroblast cells or cancer cells such as NIH-3T3 and MDA-MAB 231 cells, as well as some immunological cells such as macrophages and monocytes perform most appropriately with a 5 µm pore size diameter. For the majority of cell types, pore sizes of 8 µm are suitable. Most fibroblast and epithelial cells, for example, can migrate most effectively through this pore diameter. Note lymphocyte migration experiments should not be conducted with pores that are 8 µm in size.

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