

Protocol Note

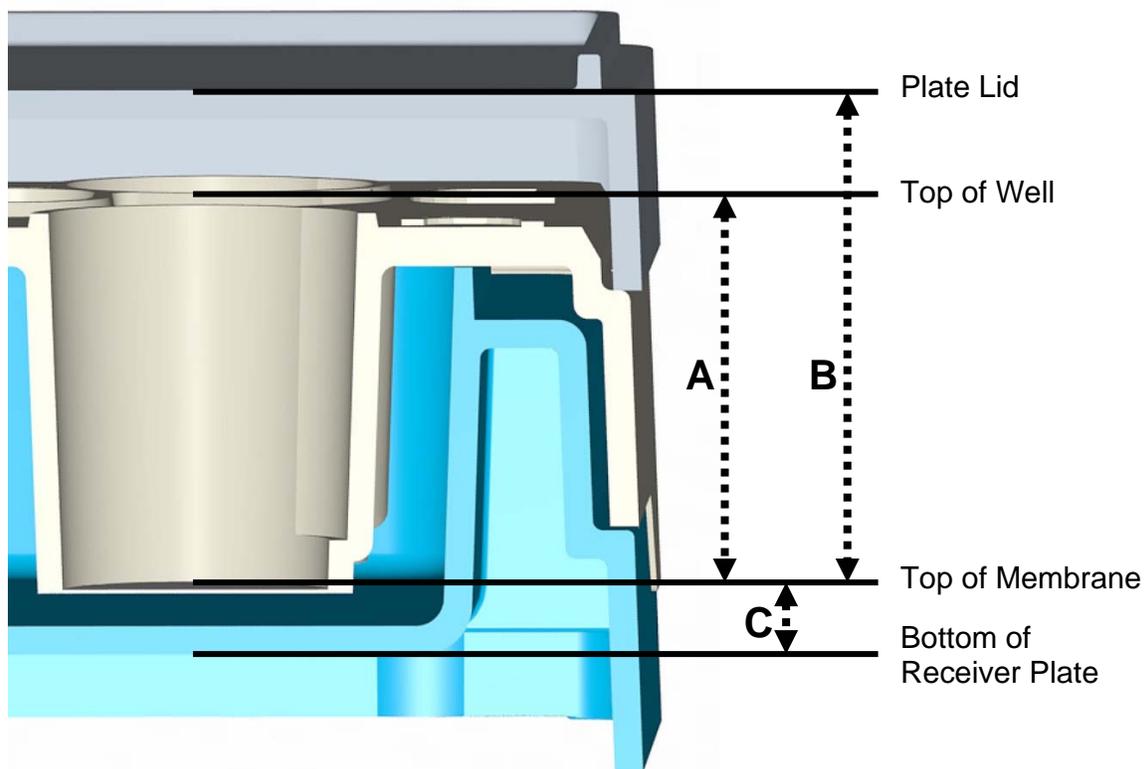
Literature no: **PC1620EN00**

Title: **Millicell[®]-24 Cell Culture Plate Microscopy Guidelines**

Date: **February 2006**

Introduction

MilliCell-24 Cell Culture Plate is a 24-well device designed to support cell attachment, growth and differentiation for many cell-based applications. The Millicell-24 Cell Culture Plate is designed such that all procedures can be carried out in a single device and can be performed either manually or using automation for cell seeding, cell feeding, washing and experimental procedures. The plate is available with 0.4 μm PCF membrane or 1.0 μm PET membrane, which allows both live and fixed cells to be visualized by phase contrast or immunocytochemical (i.e. fluorescent) methods.



A = 14 mm, B = 18 mm, C = 2 mm

Visualization Modes

Viewing from below the plate (through PET membrane):

The Millicell-24 cell culture plate has been designed to allow visualization of cells from below using an inverted microscope. For viewing live cells, microscopic observations can be made through the receiver plate containing media. In order to focus on the cells, a working microscope objective (typically 5-20X) must have a working distance (see below for finding objective specifications) of at least 2.16mm to span from the bottom of the receiver plate to the top of the membrane (see C in diagram above). Fixed cells that do not require to be visualized through media can be viewed directly without the receiver plate but care should be taken not to contaminate the objective by liquid residue (media, mounting fluid) on membrane.

Viewing from above the plate (PET or PCF membrane):

Cells can be viewed in a conventional microscope directly from above. Cells can be visualized through the lid to maintain sterility or with the lid removed for fixed cells or when maintenance of sterility is not required. Working distances of the objective must be longer when reading from above compare to from below. Typically 5-10X objectives are used that have at least a (A) 13.59mm or a (B) 18.03mm working distance when viewing without or with the lid, respectively.

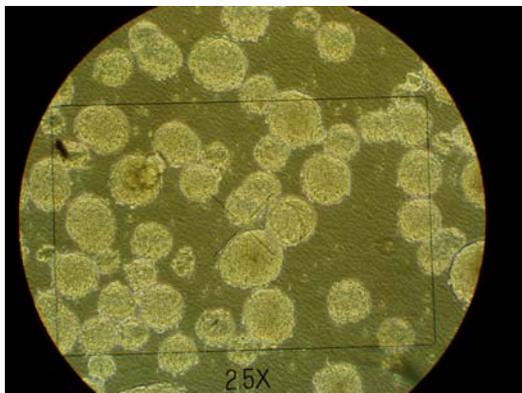
Microscope Objective Information

Information regarding microscope objective magnification power and working distances can be obtained from individual optical dealers or from the microscope vendors below

Nikon Instruments: <http://www.nikon-instruments.jp>

Olympus Corporation: <http://www.olympusamerica.com>

Carl Zeiss: <http://www.zeiss.com>



Living murine embryonic stem cell derived embryoid bodies visualized in a 1um PET Millicell-24 device using an Olympus IMT-2 inverted microscope.