

Datasheet for ABIN2344868

**CytoSelect™ 96-well Collagen Cell Invasion Assay,
Fluorometric**[Go to Product page](#)**6** Publications

Overview

Quantity:	96 tests
Reactivity:	Mammalian
Application:	Cellular Assay (CA)

Product Details

Brand:	CytoSelect™
Sample Type:	Serum, Cell Samples
Analytical Method:	Quantitative
Detection Method:	Fluorometric
Characteristics:	<p>CytoSelect™ 96-well Collagen Cell Invasion Assay Kit utilizes Bovine Type I Collagen-coated inserts to assay the invasive properties of tumor cells. The kit does not require you to prelabel the cells with Calcein AM or remove non-invaded cells (i.e. cotton swabbing). Any invaded cells are first dissociated from the membrane, then lysed and detected with CyQuant® GR Dye. The CytoSelect™ 96-well Collagen Cell Invasion Assay Kit provides a robust system for the quantitative determination of cell invasion. It contains sufficient reagents for the evaluation of 96 samples.</p>
Components:	<ol style="list-style-type: none">1. 96-well Collagen Invasion Plate : One sterile 96-well plate containing collagen-coated inserts (see Figure 1 for components)2. 96-well Cell Harvesting Tray : One 96-well tray3. Cell Detachment Solution : One 20 mL bottle4. 4X Lysis Buffer : One 10 mL bottle5. CyQuant® GR Dye : One 75 µL tube

Product Details

Material not included:	<ol style="list-style-type: none">1. Invasive cell lines2. Cell culture medium3. Serum free medium, such as DMEM containing 0.5 % BSA, 2 mM CaCl₂ and 2 mM MgCl₂4. Cell culture incubator (37 °C, 5 % CO₂ atmosphere)5. Light microscope6. 96-well microtiter plate7. Microtiter plate reader 3 Top Plate Cover Middle Invasion Plate Membrane Chamber Bottom Feeder Tray : Components of the 96-well Collagen Cell Invasion Plate.
------------------------	--

Target Details

Background:	<p>The ability of malignant tumor cells to invade normal surrounding tissue contributes in large part to the significant morbidity and mortality of cancers. Invasiveness requires several distinct cellular functions including adhesion, motility, detachment, and extracellular matrix proteolysis. Metastatic cells produce many proteolytic enzymes (e.g. lysosomal hydrolysates, collagenases, plasminogen activators) while the expression of certain cell surface protease receptors is also increased.</p>
-------------	---

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	<ul style="list-style-type: none">• Fully quantify cell invasion with no manual cell counting• Plate inserts are precoated with Collagen I gel layer
Plate:	Pre-coated
Protocol:	<p>The CytoSelect™ 96-well Collagen Cell Invasion Assay Kit contains polycarbonate membrane inserts (8 µm pore size) in a 96-well plate. The upper surface of the insert membrane is coated with a uniform layer of dried Bovine Type I Collagen matrix. This collagen matrix layer serves as a barrier to discriminate invasive cells from non-invasive cells. Invasive cells are able to degrade the collagen matrix layer, and ultimately pass through the pores of the polycarbonate membrane. Finally, these invaded cells are then dissociated from the membrane and subsequently detected by the patented CyQuant® GR Dye (Invitrogen).</p>
Assay Procedure:	<ol style="list-style-type: none">1. Under sterile conditions, allow the collagen invasion plate to warm up at room temperature for 10 minutes.2. Rehydrate the collagen layer of the membrane inserts by adding 125 µL of warm, serum-free media to the inner compartment. Incubate at room temperature for 30 minutes.3. Prepare a cell suspension containing 0.2-2.0 x 10⁶ cells/mL in serum free media. Agents that inhibit or stimulate cell invasion can be added directly to the cell suspension. Note: Overnight

Application Details

- starvation may be performed prior to running the assay.
- Carefully remove 100 μL of the rehydration medium (step 2) from the inserts without disturbing the collagen layer (leaving 25 μL inside). 4
 - Under sterile conditions, separate the cover and membrane chamber from the feeder tray. Add 150 μL of media containing 10 % fetal bovine serum or desired chemoattractant(s) to the wells of the feeder tray.
 - Place the membrane chamber back into the feeder tray (containing chemoattractant solution). Ensure no bubbles are trapped under the membrane.
 - Gently mix the cell suspension from step 3 and add 100 μL to the membrane chamber.
 - Finally, cover the plate and transfer to a cell culture incubator for 12-24 hours.
 - Just prior to the end of the incubation, pipette 150 μL of prewarmed Cell Detachment Solution into wells of the clean, 96-Well Cell Harvesting Tray (provided).
 - Carefully remove the 96-well Invasion Plate from the incubator. Separate the membrane chamber from the feeder tray.
 - Remove the cells/media from the top side of the membrane chamber by aspirating or inverting. Place the membrane chamber into the Cell Harvesting Tray containing 150 μL of Cell Detachment Solution (step 9). Incubate 30 minutes at 37 °C.
 - Completely dislodge the cells from the underside of the membrane by gently tilting the membrane chamber several times in the Cell Detachment Solution.
 - Prepare sufficient 4X Lysis Buffer/CyQuant® GR dye solution for all samples by diluting the dye 1:75 in 4X Lysis Buffer (for example, add 5 μL dye to 370 μL of 4X Lysis Buffer).
 - Add 50 μL of 4X Lysis Buffer/CyQuant® GR dye solution to each well (already containing 150 μL of Cell Detachment Solution). Incubate 20 minutes at room temperature.
 - Transfer 150 μL of the mixture to a 96-well plate suitable for fluorescence measurement. Read the fluorescence with a fluorescence plate reader at 480 nm/520 nm. 5

Restrictions: For Research Use only

Handling

Storage: 4 °C

Storage Comment: Store all components at 4°C.

Publications

Product cited in: Dubuisson, Day, Dhurandhar: "Accurate identification of neutralizing antibodies to adenovirus Ad36, -a putative contributor of obesity in humans." in: **Journal of diabetes and its complications**, Vol. 29, Issue 1, pp. 83-7, (2014) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)