Datasheet for ABIN2344856

CytoSelect™ 96-well Cell Migration and Invasion Assay (8 µm), Fluorometric, Combo Kit

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Overview

Quantity:	2 x 96 tests
Reactivity:	Mammalian
Application:	Cellular Assay (CA)

Product Details

Brand:	CytoSelect™
Sample Type:	Serum, Cell Samples
Analytical Method:	Quantitative
Detection Method:	Fluorometric
Characteristics:	CytoSelect™ 96-well Cell Migration and Invasion Assay Kit utilizes a polycarbonate membrane plate (8 µm pore size) or basement membrane-coated inserts to assay the migratory or invasive properties of cells. The kit does not require you to prelabel the cells with Calcein AM or remove non-migratory or non-invasive cells (i.e. cotton swabbing). Any migratory or invasive cells are first dissociated from the membrane, then lysed and detected with CyQuant® GR Dye. The CytoSelect™ 96-well Cell Migration and Invasion Assay Kit provides a robust system for the quantitative determination of cell migration. Each assay contains sufficient reagents for the evaluation of 96 samples. The 8 µm pore size is optimal for epithelial and fibroblast cell migration. However, in the case of leukocyte chemotaxis, a smaller pore size (3 µm) is recommended.
Components:	1. 96-well Cell Migration Plate : One sterile 96-well plate (see Figure 1 for components) 2. 96-well Cell Invasion Plate : One sterile 96-well plate containing ECM-coated inserts (see Figure 1 for components)

Product Details

	3. 96-well Cell Harvesting Tray : Two 96-well trays 4. Cell Detachment Solution : Two 20 mL bottles 5. 4X Lysis Buffer : Two 10 mL bottles 6. CyQuant® GR Dye : Two 75 µL tubes Top Plate Cover Middle Migration Plate Membrane Chamber Bottom Feeder Tray Figure 1: Components of the 96-well Cell Migration Plate.
Material not included:	1. Migratory cell lines 2. Cell culture medium 3 3. Serum free medium, such as DMEM containing 0.5 % BSA, 2 mM $CaCl_2$ and 2 mM $MgCl_2$ 4. FBS or desired chemoattractant 5. Cell culture incubator (37 °C, 5 % CO_2 atmosphere) 6. Light microscope 7. 96-well plate suitable for a fluorescence plate reader 8. Fluorescence plate reader

Target Details

Background:	Cell migration is a highly integrated, multistep process that orchestrates embryonic morphogenesis, tissue repair and regeneration. It plays a pivotal role in the disease progression of cancer, mental retardation, atherosclerosis, and arthritis. The initial response of a cell to a migration-promoting agent is to polarize and extend protrusions in the direction of the attractant, these protrusions can consist of large, broad lamellipodia or spike-like filopodia. In either case, these protrusions are driven by actin polymerization and can be stabilized by extracellular matrix (ECM) adhesion or cell-cell interactions. 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.

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	• Fully quantify chemotaxis and cell invasion with no manual cell counting • Includes two plates with 8 µm membrane inserts: one uncoated for chemotaxis and one precoated on top of the membrane with ECM matrix (basement membrane) for cell invasion
Plate:	Pre-coated
Restrictions:	For Research Use only

Handling

Storage:	4 °C
Storage Comment:	Store all components at 4°C.

Publications

Product cited in:

Zecchini, Madhu, Russell, Pértega-Gomes, Warren, Gaude, Borlido, Stark, Ireland-Zecchini, Rao, Scott, Boren, Massie, Asim, Brindle, Griffiths, Frezza, Neal, Mills: "Nuclear ARRB1 induces pseudohypoxia and cellular metabolism reprogramming in prostate cancer." in: **The EMBO journal**, Vol. 33, Issue 12, pp. 1365-82, (2014) (PubMed).

Sharma, Massie, Butter, Mann, Bon, Ramos-Montoya, Menon, Stark, Lamb, Scott, Warren, Neal, Mills: "The ETS family member GABP? modulates androgen receptor signalling and mediates an aggressive phenotype in prostate cancer." in: **Nucleic acids research**, Vol. 42, Issue 10, pp. 6256-69, (2014) (PubMed).

Ardiani, Gameiro, Palena, Hamilton, Kwilas, King, Schlom, Hodge: "Vaccine-mediated immunotherapy directed against a transcription factor driving the metastatic process." in: **Cancer research**, Vol. 74, Issue 7, pp. 1945-57, (2014) (PubMed).

Axlund, Lambert, Nordeen: "HOXC8 inhibits androgen receptor signaling in human prostate cancer cells by inhibiting SRC-3 recruitment to direct androgen target genes." in: **Molecular cancer research : MCR**, Vol. 8, Issue 12, pp. 1643-55, (2010) (PubMed).

Alfano, Leppla, Liu, Bugge, Meininger, Lairmore, Mulne, Davis, Duesbery, Frankel: "Matrix metalloproteinase-activated anthrax lethal toxin inhibits endothelial invasion and neovasculature formation during in vitro morphogenesis." in: **Molecular cancer research : MCR**, Vol. 7, Issue 4, pp. 452-61, (2009) (PubMed).

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