

CellPlayer™ 96-Well Cell Invasion BD Rat Tail Collagen Matrix:

Biologically Quality-Controlled BD Rat Tail Collagen I, 100 ml

EsSEN BioScience Catalog Number: 4449

Presentation, storage and stability

Source: Rat tail tendon
Quantity: 100 mg (as measured by pyrochemiluminescence)
Formulation: 0.02N Acetic Acid (Lot specific information provided upon shipment)
Stability: Stable for a minimum of 3 months from day of shipment when stored at 2-8°C

Storage: 2-8°C DO NOT FREEZE.

Background

Collagen I is found in most mammalian tissues, but is especially abundant in connective tissue including bone, skin, ligaments, and tendons. Collagen I is commonly used in *in vitro* tissue culture applications to facilitate cell attachment when used as a thin layer, or to study cell invasion when used as a gel. BD Rat Tail I Collagen Matrix can be used in combination with the Essen BioScience IncuCyte™ live-cell imaging system and the CellPlayer™ 96-Well Cell Migration/Invasion Assay Kit to study invasion. The rat tail collagen type I available from Essen BioScience consists of biologically quality controlled lots of collagen I from BD Biosciences (Catalog Number 354236).

EsSEN Biological Quality Control Testing

BD Matrigel Matrix can be used in combination with the Essen BioScience IncuCyte™ live-cell imaging system and the CellPlayer™ 96-Well Cell Migration/Invasion Assay Kit to study invasion. The extra-cellular matrix available from Essen BioScience consists of biologically quality controlled lots of Matrigel (GFR) obtained from BD Biosciences (Cat.# 354234). Extensive testing at Essen BioScience has shown that not all lots **or** commercial sources of extra-cellular matrix reagents are compatible with the CellPlayer™ 96-Well Cell Invasion Assay. The testing protocol used at Essen BioScience analyzes kinetic data from HT 1080 cells using the IncuCyte™ Migration/Invasion - Relative Wound Density metric to ensure consistent wound closure kinetics from well-to-well. Migrating cells move much faster, and can easily be flagged using kinetic platemap data from the IncuCyte™ (Figure 1A,1B). In addition, each individual well is visually inspected to insure that a spatially homogeneous invasive morphology consistent with the HT1080 cells is observed Figure (1C). Our criteria for approving compatible lots ensures that over 95% of tested wells pass both assessments in at least 192 individual wells collected over 4 separate experiments. Not all matrix components tested have met these strict criteria.





CellPlayer™ 96-Well Cell Invasion BD Rat Tail Collagen Matrix

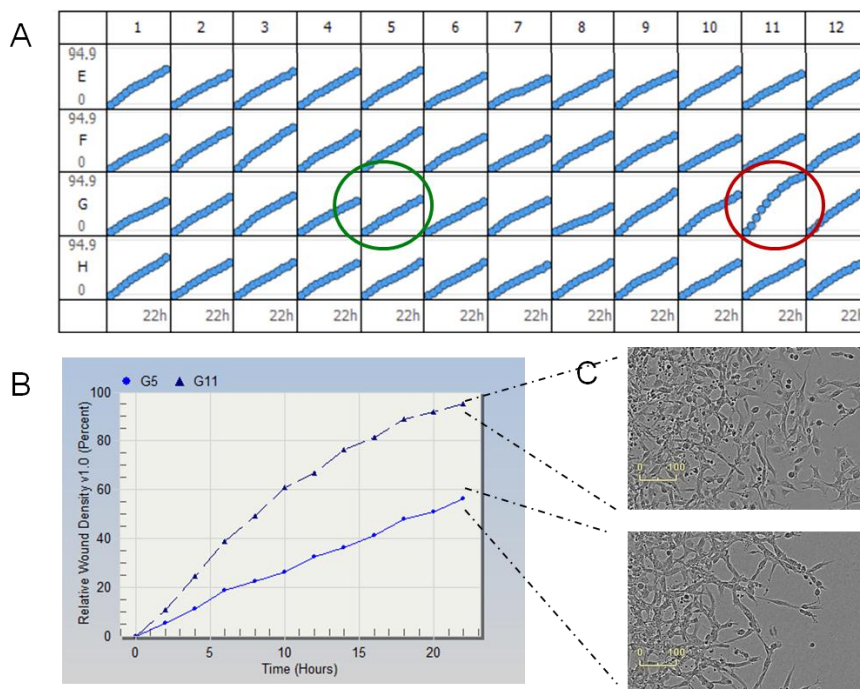


Figure 1: Extracellular Matrix reagent testing at Essen BioScience has revealed lot-to-lot variations as well as differences between commercial sources. Essen BioScience has removed this research variable by offering a line of biologically quality tested reagents. Figure 1A represents an example IncuCyte™ kinetic microplate graph from internal testing using HT 1080 cells. The green circle highlights a well exhibiting a migration rate consistent with an *invasive phenotype*, whereas the red circle denotes a well which is exhibiting a faster *migration phenotype*. Figure 1B is an expanded kinetic trace of both wells. Figure 1C represents the respective well images taken at the 24 hour time point illustrating the obvious differences in morphology. Essen BioScience quality controlled ECM lots undergo extensive testing where both the rate, as well as the morphology of at least 192 individual wells are examined over 4 separate experiments.

Recommended Use

This reagent can be used to promote attachment of cells by coating plates/dishes at low concentrations in non-gelling conditions (dilute to 50 µg/ml in 0.02N acetic acid, incubate overnight). This reagent can also be used as an extracellular matrix for invasion studies using the Essen BioScience IncuCyte™ live-cell imaging system and the CellPlayer™ 96-Well Cell Migration/Invasion Assay Kit. For additional information including a simplified description of the protocol and an extensive application note, please visit our webpage at <http://essenbioscience.com/productsApplInvasion.html>. For a detailed protocol including use of the CellPlayer™ 96-Well Cell Migration/Invasion Assay Kit and additional information, please contact Essen BioScience at sales@essenbio.com.

MSDS Information

MSDS information can be found at:

http://www.bdbiosciences.com/external_files/dl/doc/msds/live/web_enabled/354236-MSDS-USAUSA.pdf

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