

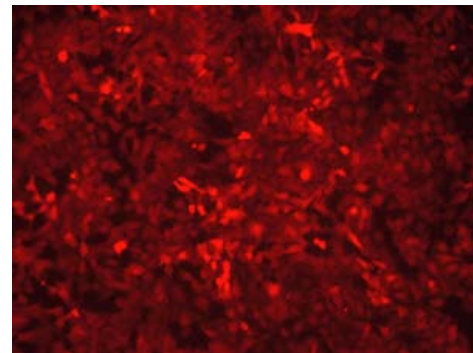
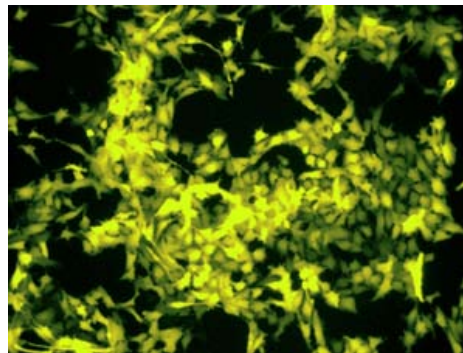
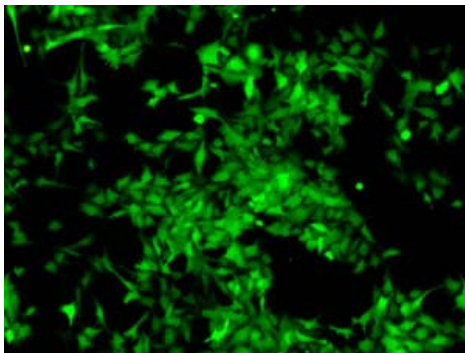
# *Multicolored Fluorescent Cell Lines for Drug Discovery*

**Enrique Zudaire**

Angiogenesis Core Facility

National Cancer Institute

National Institutes of Health



# *The need*

## **Translational research and drug discovery require quantitative bio-imaging of complex co-culture systems**

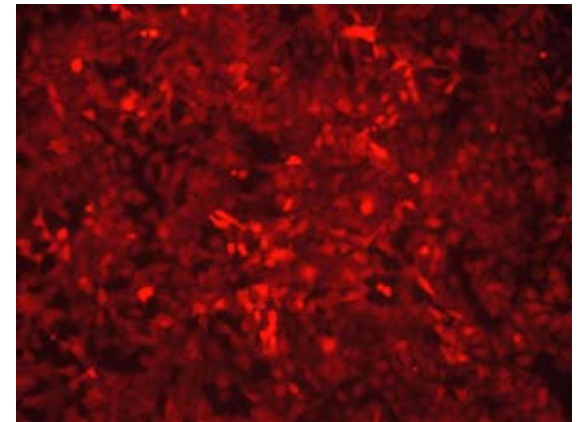
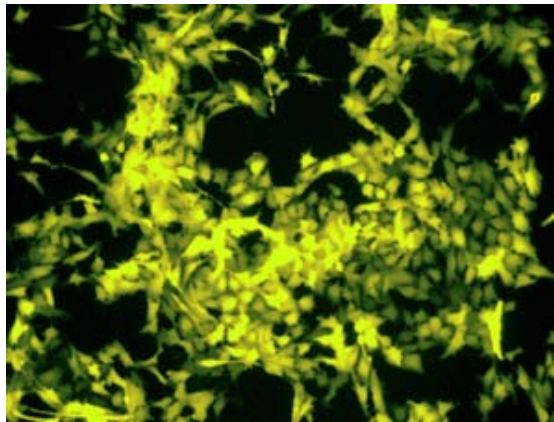
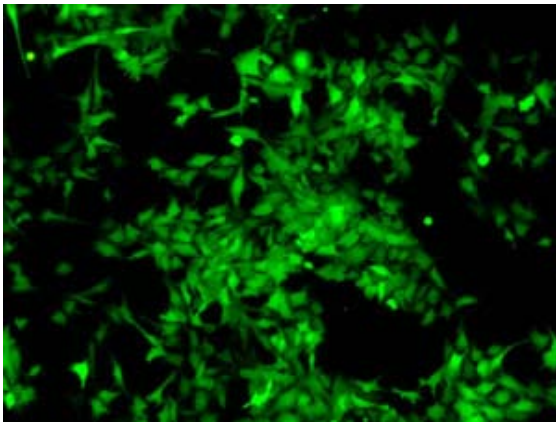
1. Single cell paradigm is not valid anymore
2. Cell-cell interactions
3. Complex *in vitro* systems which mimic the *in vivo* environment
4. Easy imaging, High Throughput Screening, fast, affordable

# *The technology*

## **Fluorescent reporter cell lines, new assay systems, new software**

1. Easy, fast, affordable, real time assessment of undisturbed cell behavior
2. Allows to generate complex co-culture systems
3. Suitable for High Throughput Screening
4. Designed to empower bio-imaging capabilities

# *Technology and commercial applications*

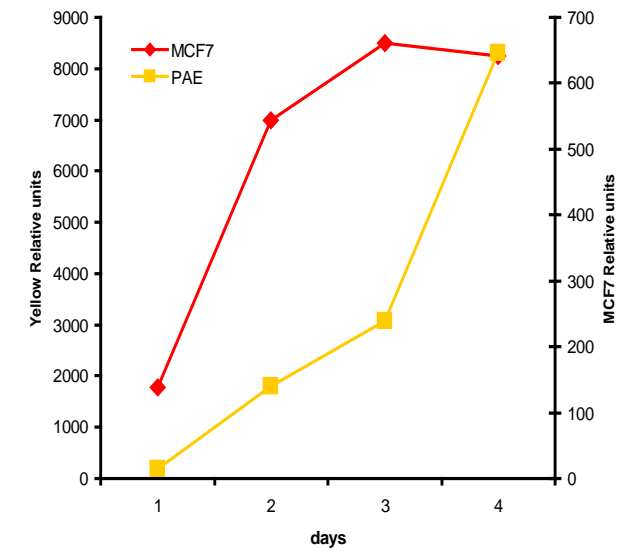
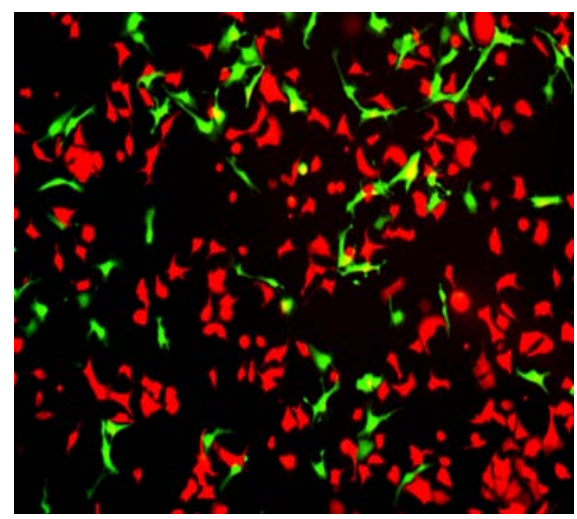
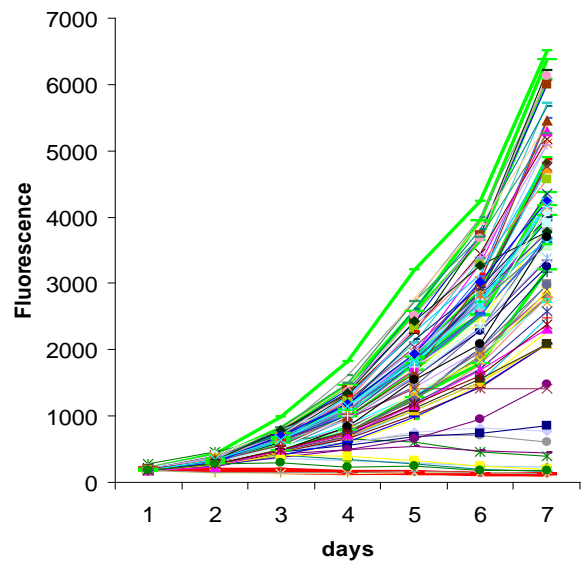


Stably transfected fluorescent cells from different anatomical origins: endothelium, fibroblast, immune system, pericytes, tumor cells, etc.

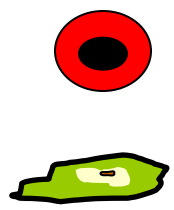
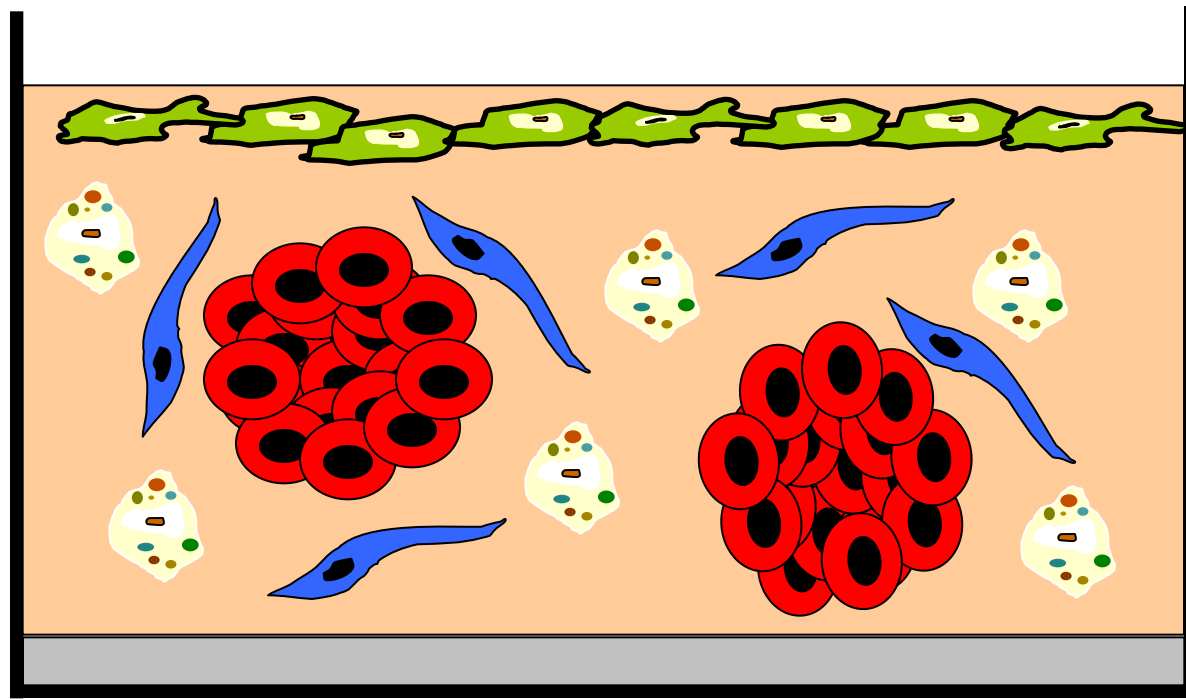
## *US Patent Application No. 60/976,732*

# Growth Assay

**Real time assessment of growth**  
**Single or multi-cell cultures**  
**Fast, affordable High Throughput screening**  
**Undisturbed cultures**  
**FACS sorting for subsequent analysis**



# Co-cultures in 3D models



Tumor cell

Endothelial cell



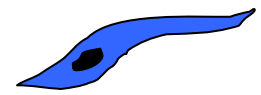
Matrix



Agar

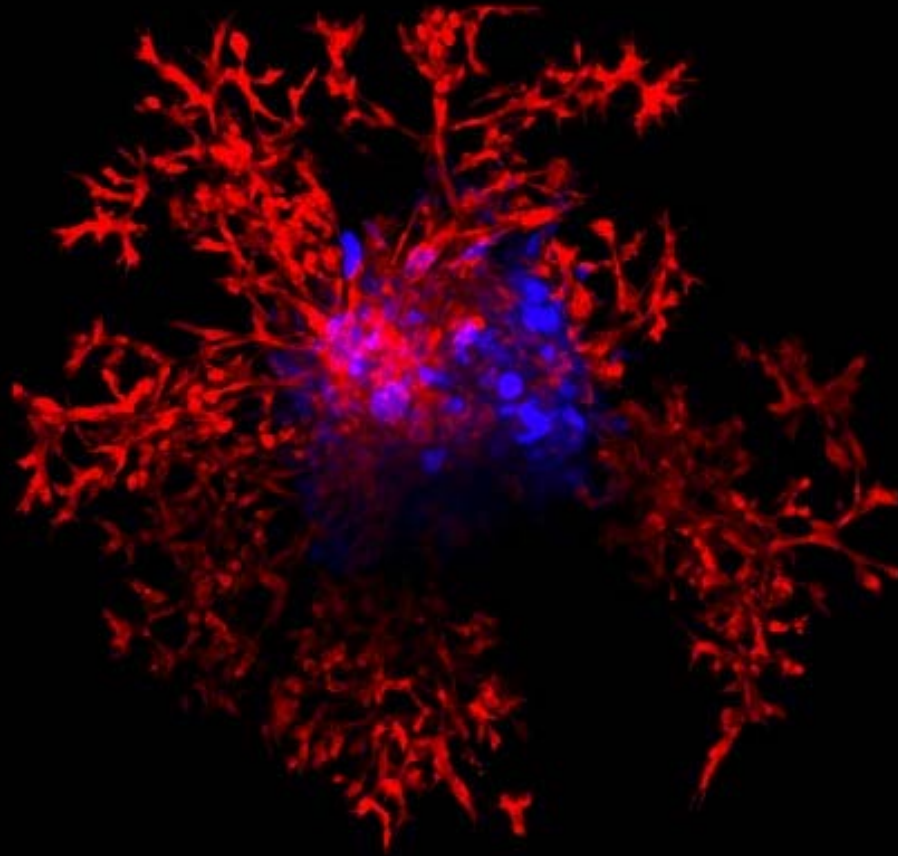


Inflammatory cell

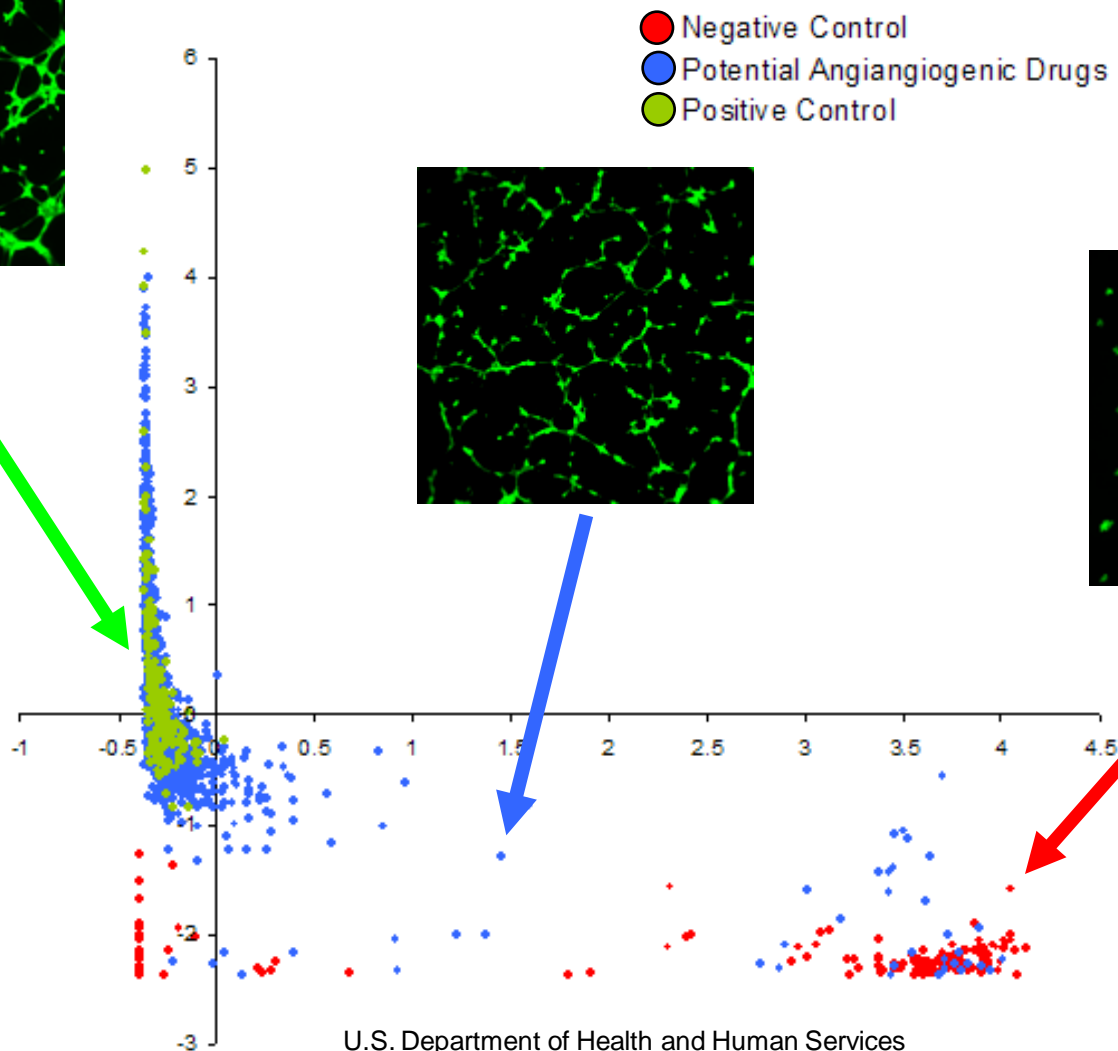
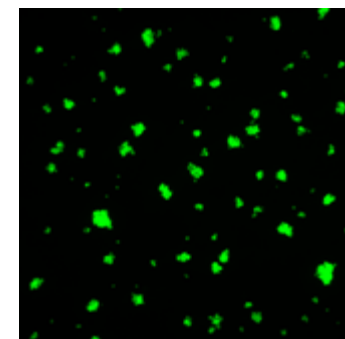
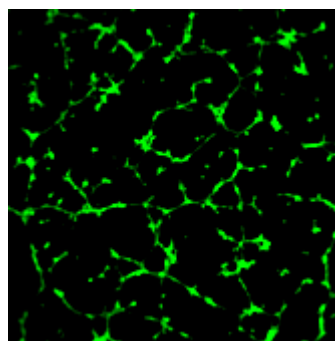
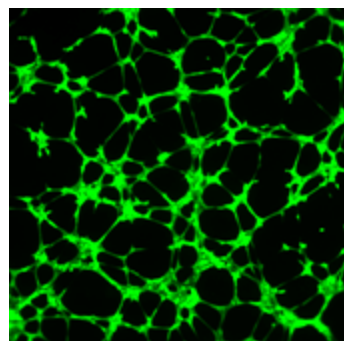


Fibroblast and other accessory cells

# *Co-cultures in 3D models*



# High Throughput Screening



U.S. Department of Health and Human Services  
National Institutes of Health

# *Collaboration Opportunities Licensing and CRADA*

Focusing in existing technology and future research  
In vitro and in vivo systems

## **Collaborations**

**Rush University  
University of Carolina  
NIH**

## **Private Sector**

**Vivo Biosciences Inc  
Millipore  
Invitrogen**



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