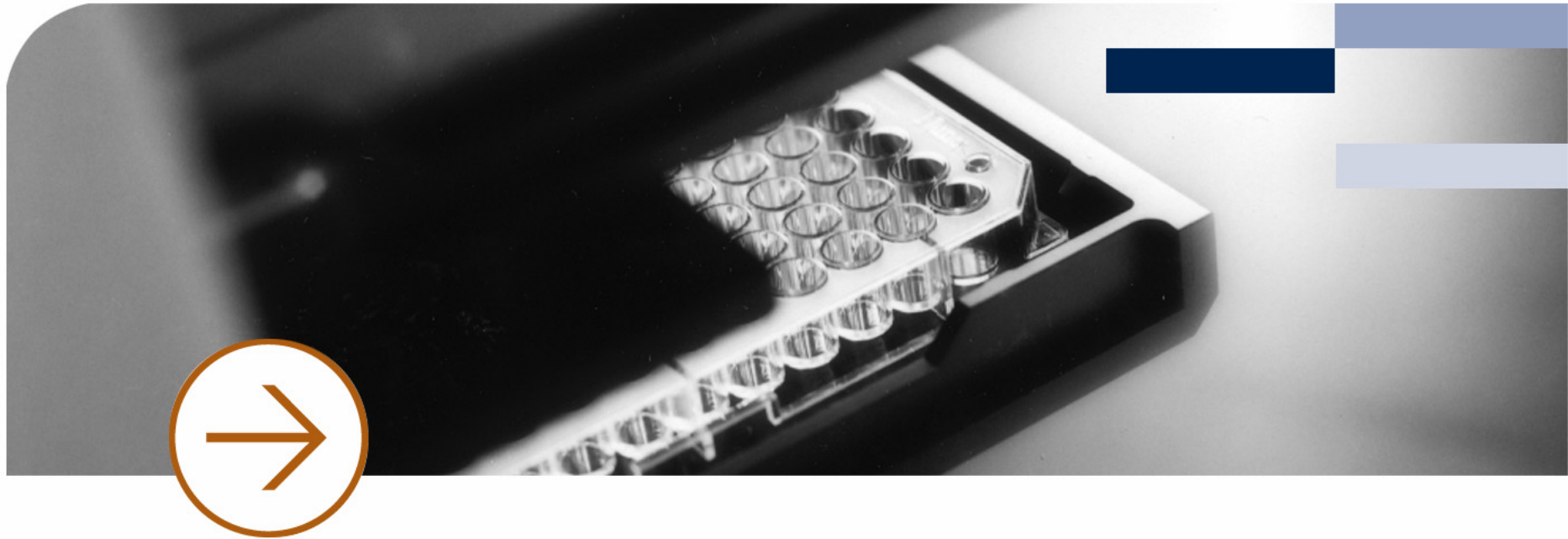


# Widefield vs. Confocal

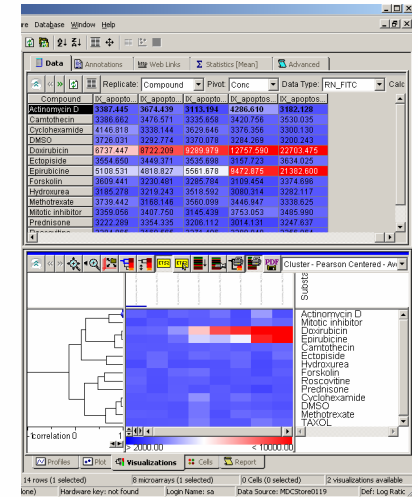
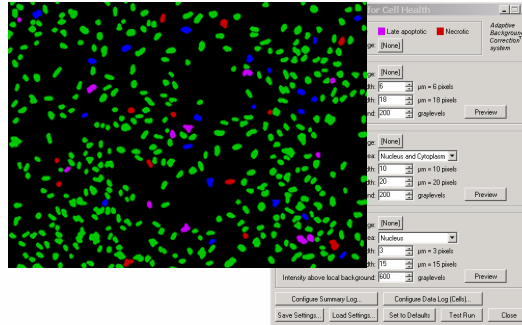
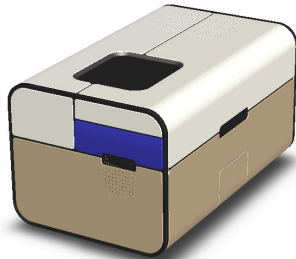
Example of the Transfluor assay



Pierre Turpin, Ph.D.  
Application Scientist, Imaging Marketing  
Molecular Devices Corporation



# The MDC "Complete Solution for HCS"



## Imaging Systems MetaXpress™

Image Acquisition

## MetaXpress™ Application Modules

Image Analysis

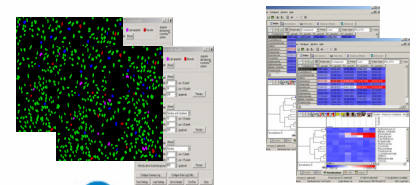
## AcuityXpress™ Cellular Informatics

## Transfluor®

Enabling Biology  
New Tiered  
Licensing

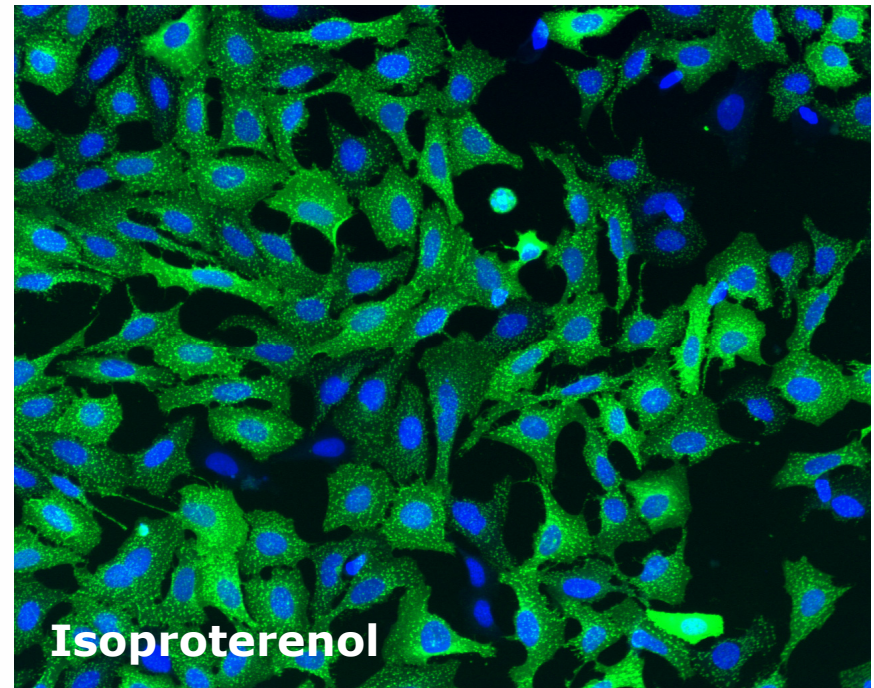
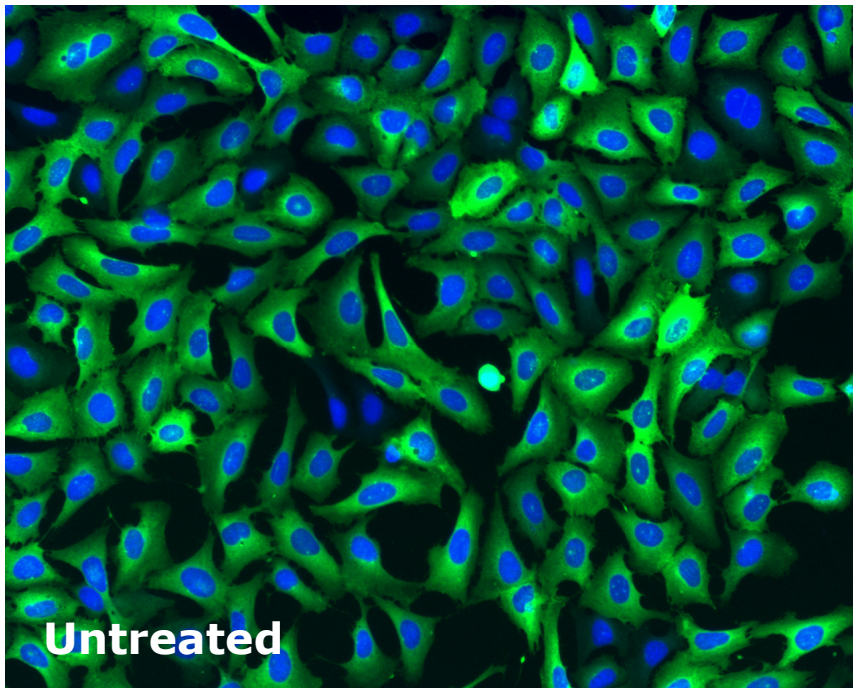


Scalable...



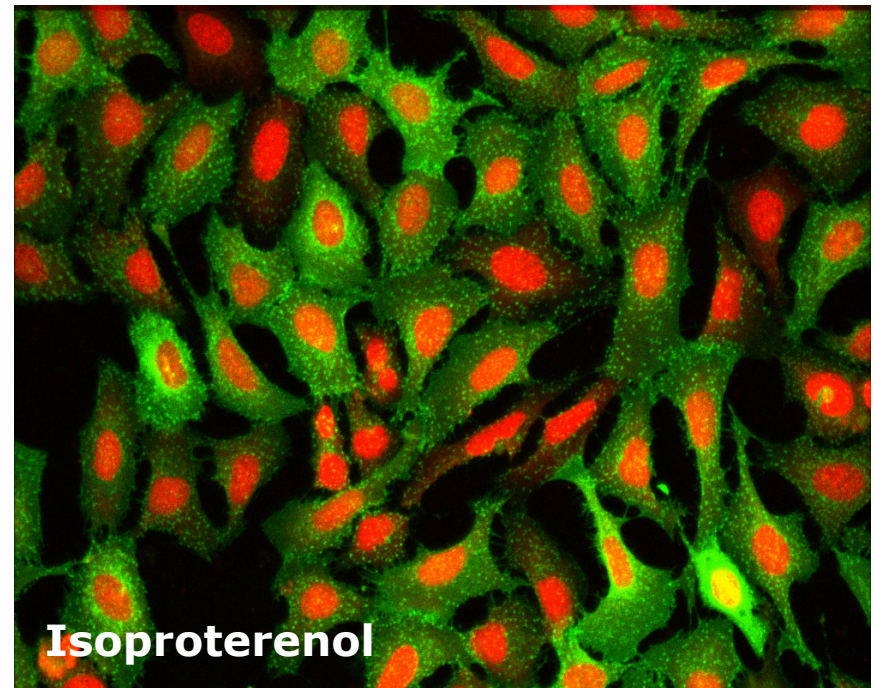
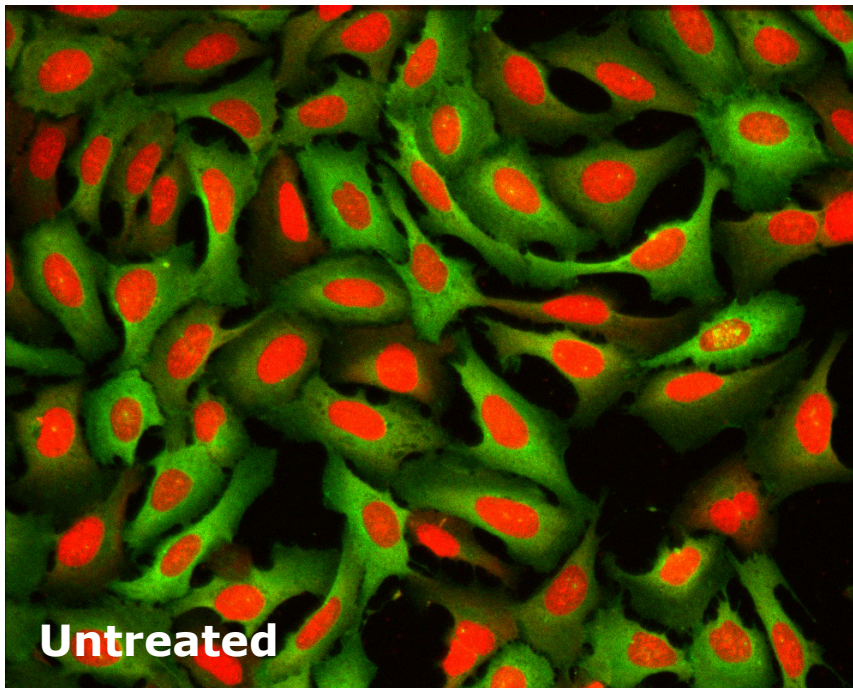
# Transfluor $\beta$ -Adrenergic receptor: Wide Field CCD

40x: U2OS  $\beta$ -Adrenergic receptor, pit-forming cell line



# Transfluor $\beta$ -Adrenergic receptor: Confocal (simultaneous 2 colors)

40x: U2OS  $\beta$ -Adrenergic receptor, pit-forming cell line



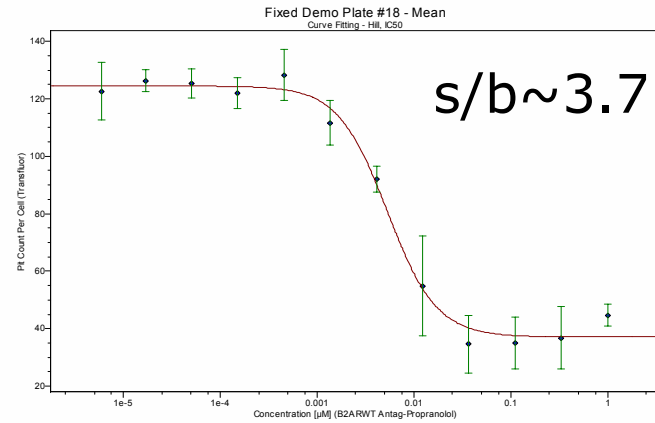
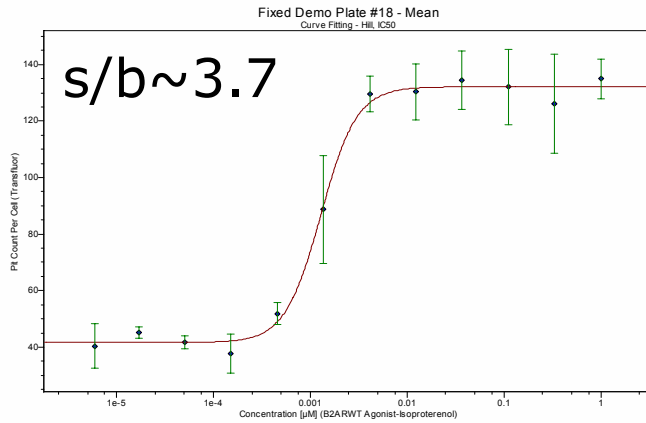


# U2OS $\beta$ -Adrenergic receptor Wide Field vs. Confocal

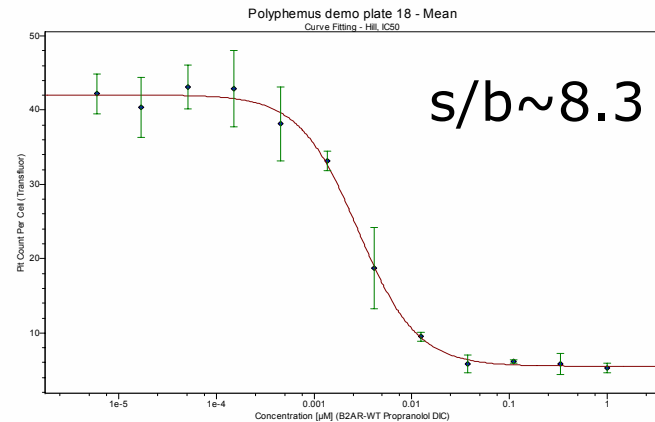
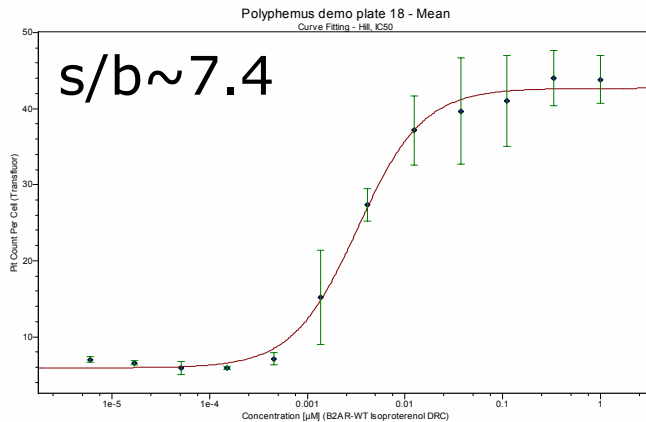
## Agonist Mode

## Antagonist Mode

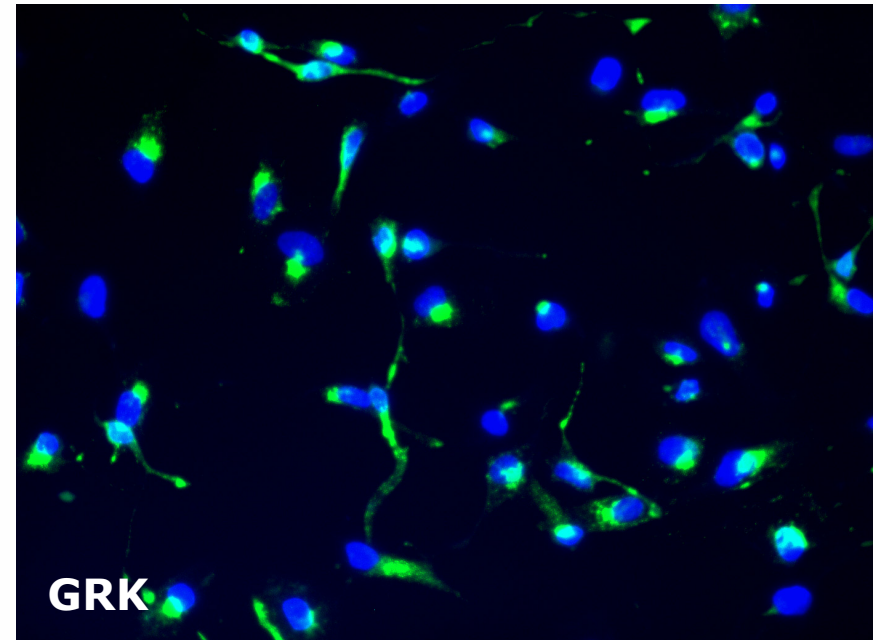
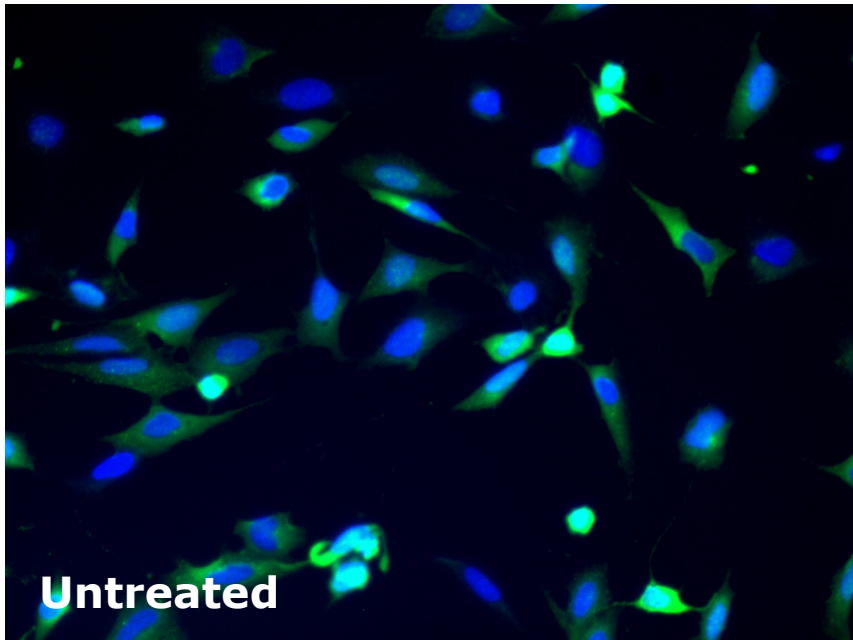
IX5000



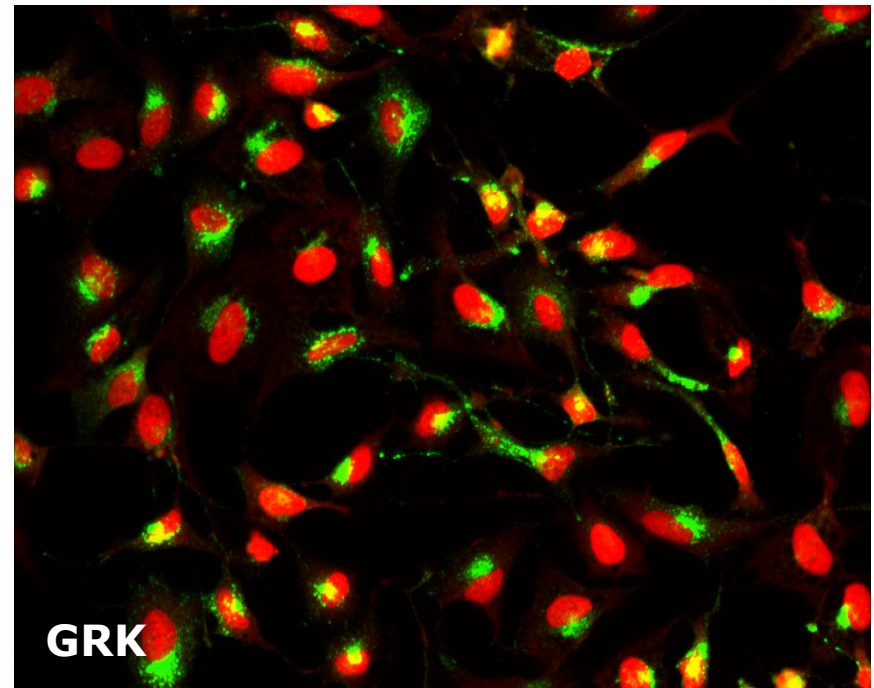
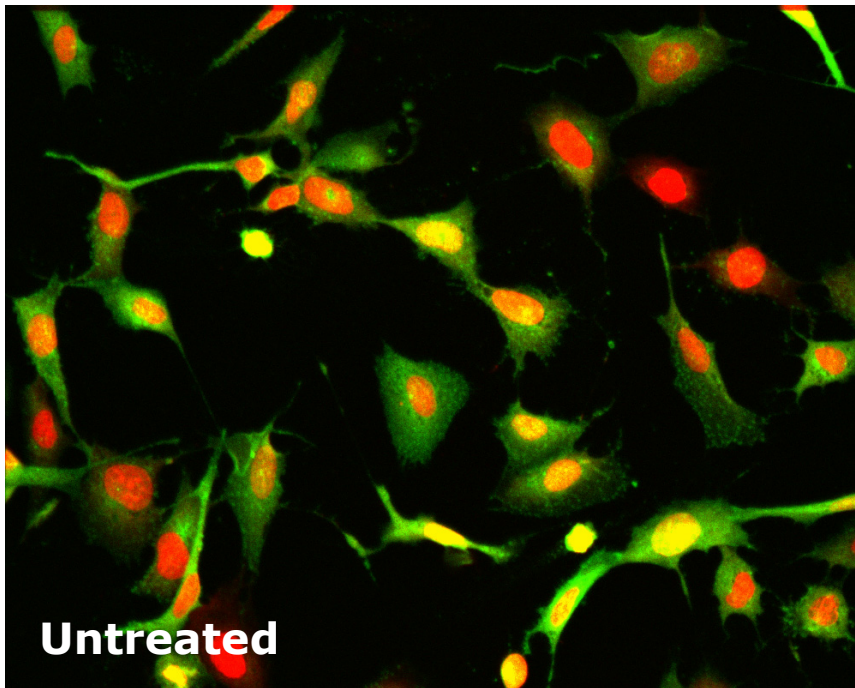
IXULTRA



# TransfluoR Toxic GPCR (rounded cells): Wide Field CCD

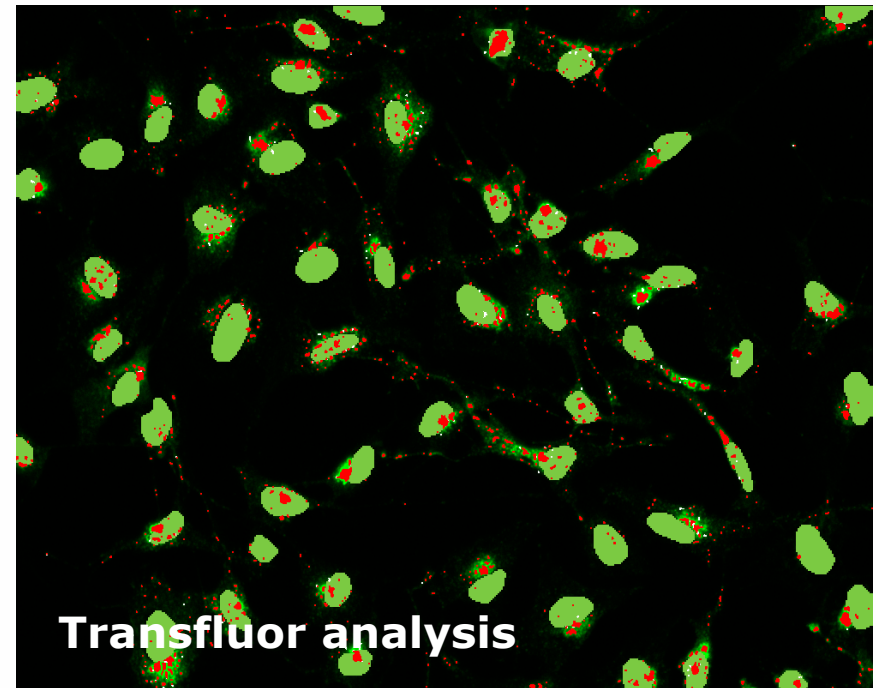
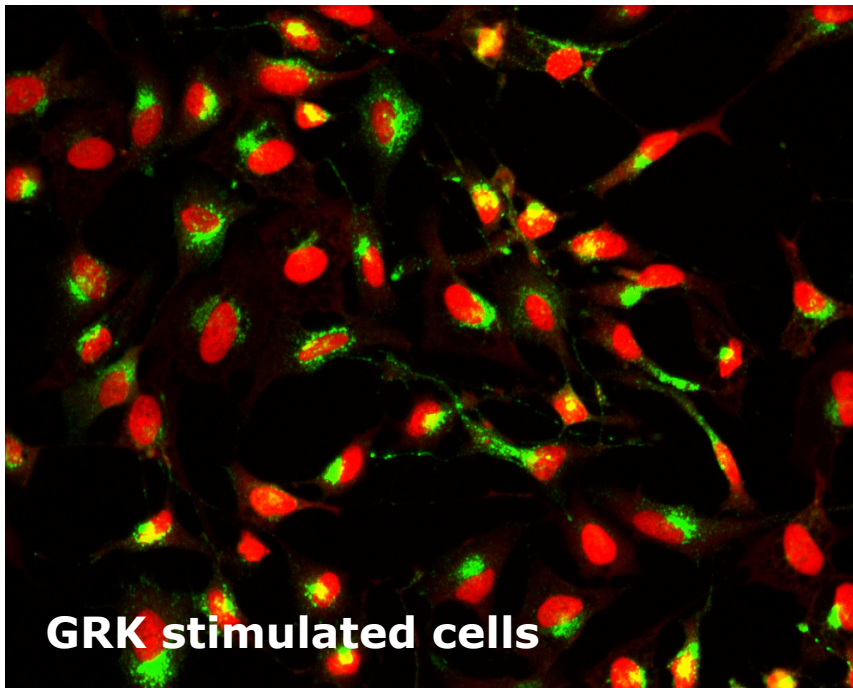


# Transflur Toxic GPCR (rounded cells): Confocal (simultaneous 2 colors)



# TransfluoR Toxic GPCR (rounded cells): Confocal (simultaneous 2 colors)

Easily detects TransfluoR pits in rounded-up cells

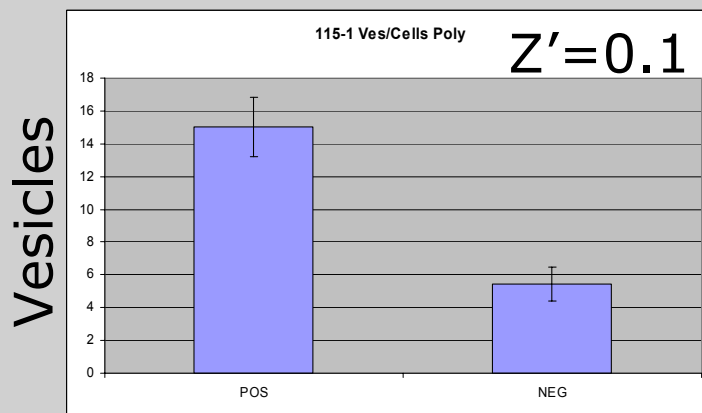
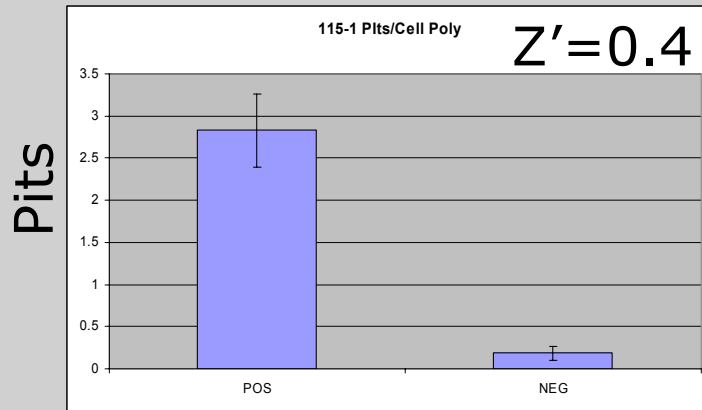




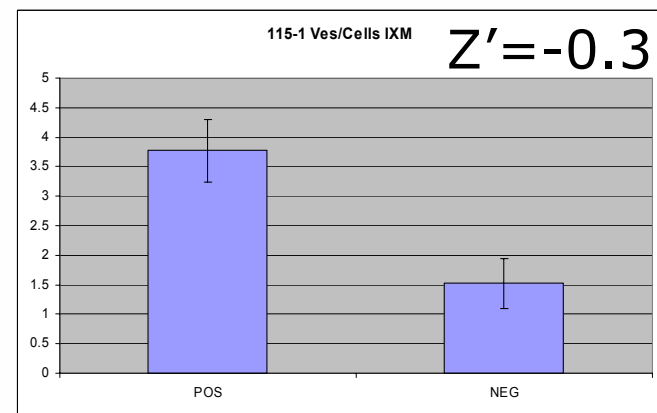
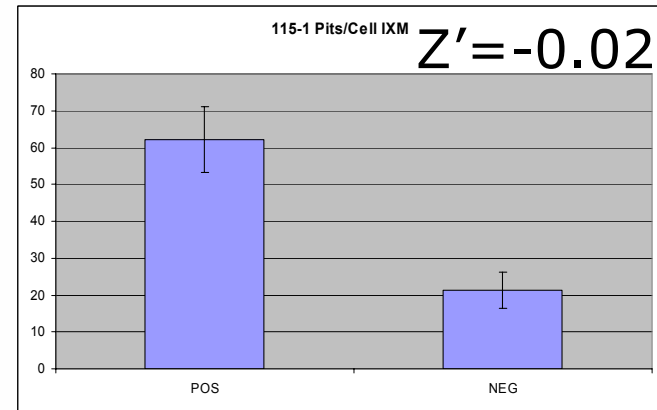


# Transflur Toxic GPCR (rounded cells): Wide field vs. Confocal

## ImageXpress<sup>ULTRA</sup>



## ImageXpress<sup>MICRO</sup>



Easily detects Transflur in rounded-up cells



# Widefield vs. Confocal

Application	Widefield	Confocal
Cell counting	Ideal	Excellent for adherent cells, poor for suspension cells
Total fluorescent intensity	Ideal	Excellent for flat cells, poor for rounded cells
Whole organisms	Excellent (transmitted light option useful)	Assay dependent
Fine subcellular imaging	Excellent for flat cells, poor for rounded cells	Excellent for flat cells and rounded cells
Long structures at high resolution (neurons, etc.)	Generally smaller field of view, requires multiple sites / stitching	Often allow s larger field of view
Thick samples (e.g. Matrigel)	Requires Z stack / best focus or deconvolution (slow)	Ideal
Fluorescent compounds / high background	Requires w ashing or quenching	Ideal (rejects out of focus light)
Colocalization	Not w ell suited	Ideal
Z-stacks / 3D reconstruction	Not w ell suited	Ideal
Laser based applications (e.g. FRAP)	N/A	Ideal