

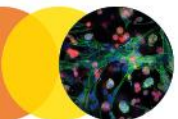
CellReporterXpress[®] Software Guide

Quick Start guide



Support Resources

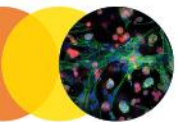
- Help button  within CellReporterXpress[®] Software
- Support and Knowledge Base: <http://mdc.custhelp.com>
- Email Technical Support:
support@moldev.com (US)
techsupport.eu@moldev.com (EU)
- Telephone Technical Support: 800-635-5577 (US) or +44 118 944 8000 (EU), select options for Technical Support → Cellular Imaging Products → ImageXpress Products



Purpose

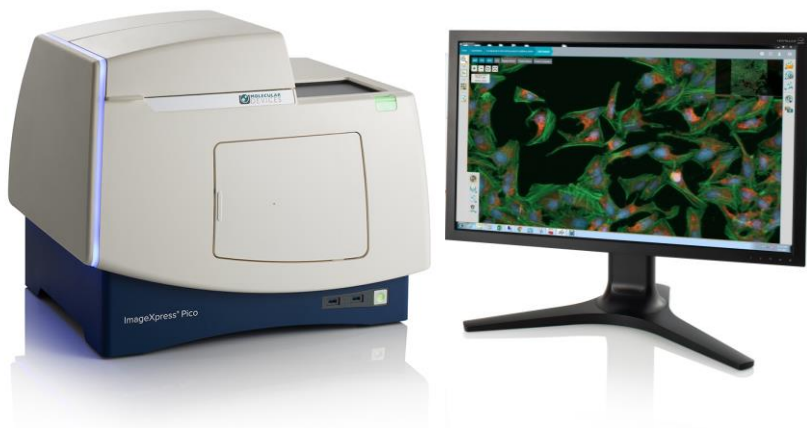
This document provides a step-by-step review of CellReporterXpress to:

- Running a saved acquisition protocol
- Creating a new acquisition protocol with on-the-fly analysis
- Viewing Images



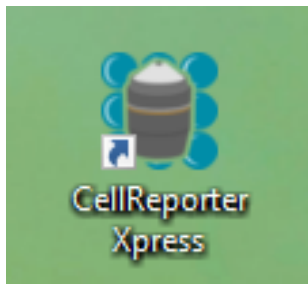
Turn on the system and open the software

1. Turn on the System.



1. ImageXpress Pico power
2. Computer and Monitor
3. Log into the computer

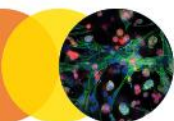
2. Start the software.



Double click on the CellReporterXpress icon on the desktop

-or-

Open Chrome (or Safari) browser and type the web address
(**localhost:8080** for attached desktop)



A screenshot of a web login form titled "LOG IN" in a blue header. The form has a dark grey background and contains three input fields: "Login" with a person icon, "Password" with a lock icon, and a "Remember me" checkbox. A blue "LOG IN" button is at the bottom. The entire form is enclosed in an orange border.

LOG IN

Login

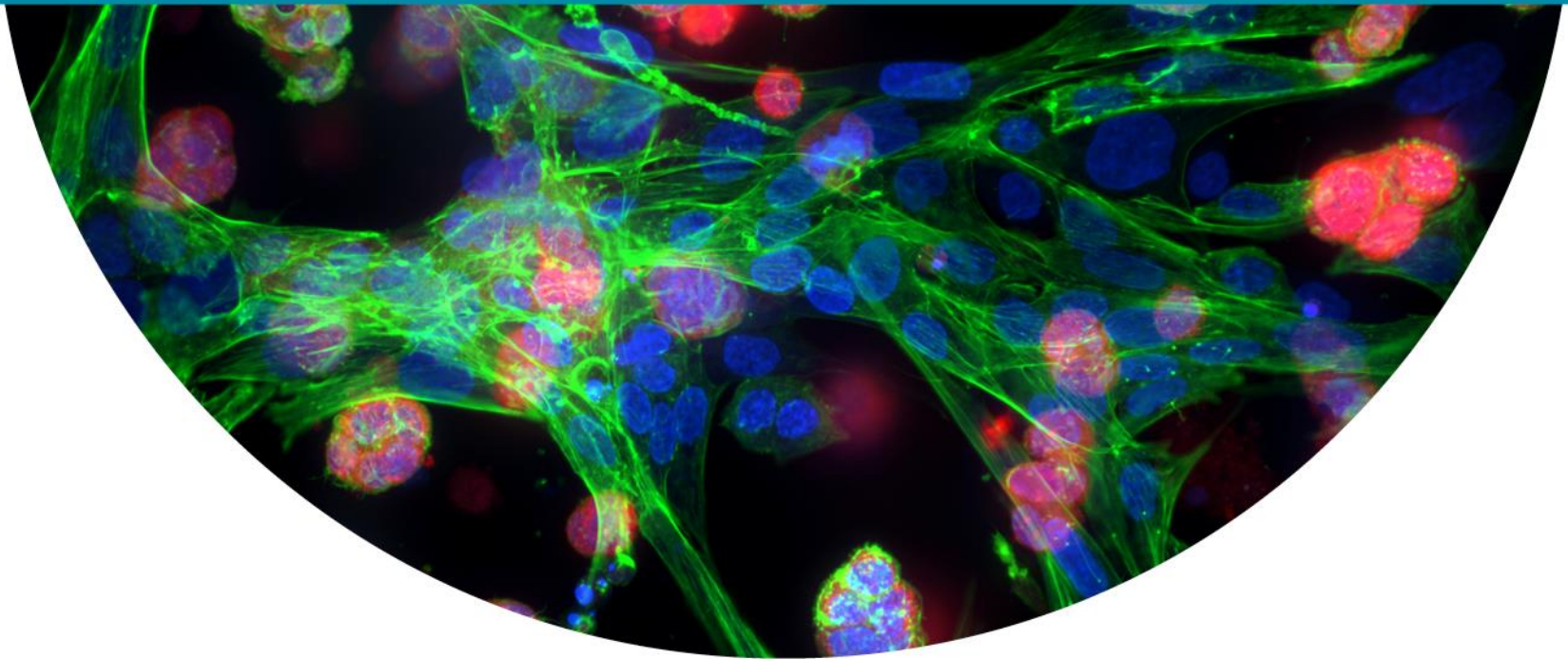
Password

Remember me

LOG IN

Enter your **LOGIN** and **PASSWORD**, then select **LOG IN**.

NOTE On most computers attached to your organization's network, this will be your network user name and password.



Load and run a saved protocol



ACQUISITION

Start new experiments by acquiring images from a device.



EXPERIMENTS

Review experiments and run analysis.



STATUS

Monitor acquisition and analysis progress on all devices on the network.



CONFIGURATION

Manage labware and stain libraries, register devices and services



DEVICES

Manage devices

Select the **Acquisition** panel.

moleculardevices.com
moleculardevices.com/contact
US (Toll-free) 1-800-635-5577
UK (Freephone) 00800-665-32860

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Not for use in diagnostic procedures.

Molecular Devices, LLC
1.0.593





tim.baranowski@moldev.com

Aug 9, 2017 21:32

**DNA Damage Etoposide 20X with An...**

DNA damage Etoposide dose response, 384 well Falcon plate, DRAQ5 and AF488, 20X ELWD

Cell Scoring



moldev


Sep 8, 2017 13:02

**Transfluor Vesicles with Analysis at 2...**

Transfluor, isoproterenol dose response, DAPI, GFP-b-arrestin, Falcon 384 well plate, 20x ELWD, internalization analysis, single site

Transfluor Vesicles 20x



Find the card for your saved Settings and click on the **Run**  icon on the bottom right corner of the card.



STEPS

Run Protocol

Experiment Name *

I am reusing an existing acquisition protocol.

Barcode

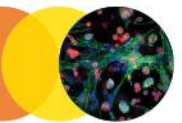
Experiment Description

1. Enter an **Experiment Name** and, optionally, a description.

2. On the right side of the screen, click the **Run Experiment** button to start the acquisition.

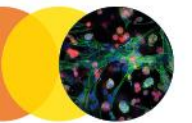
Validation	Acquisition Parameters	Analysis Parameters
655090		
✓	Objective	x10 0.4 x 0.3mm
✓	Exposure	
?	Acquisition region	1
?	Selected Wells	28
?	Analysis regions	1
✓	Selected measurements	11
✓	Analysis services	
✓	Device	IXN-AWS-FAS 172.31.30.81
✗	Device Temp Storage	D:\
		Free: 4.42 GB Expected: 8.50 GB
✗	Data Storage	IXN-AWS-FAS C:\ProgramData\Molecular Devices\MD.LocationService\Data
		Free: 10.36 GB Expected: 11.34 GB

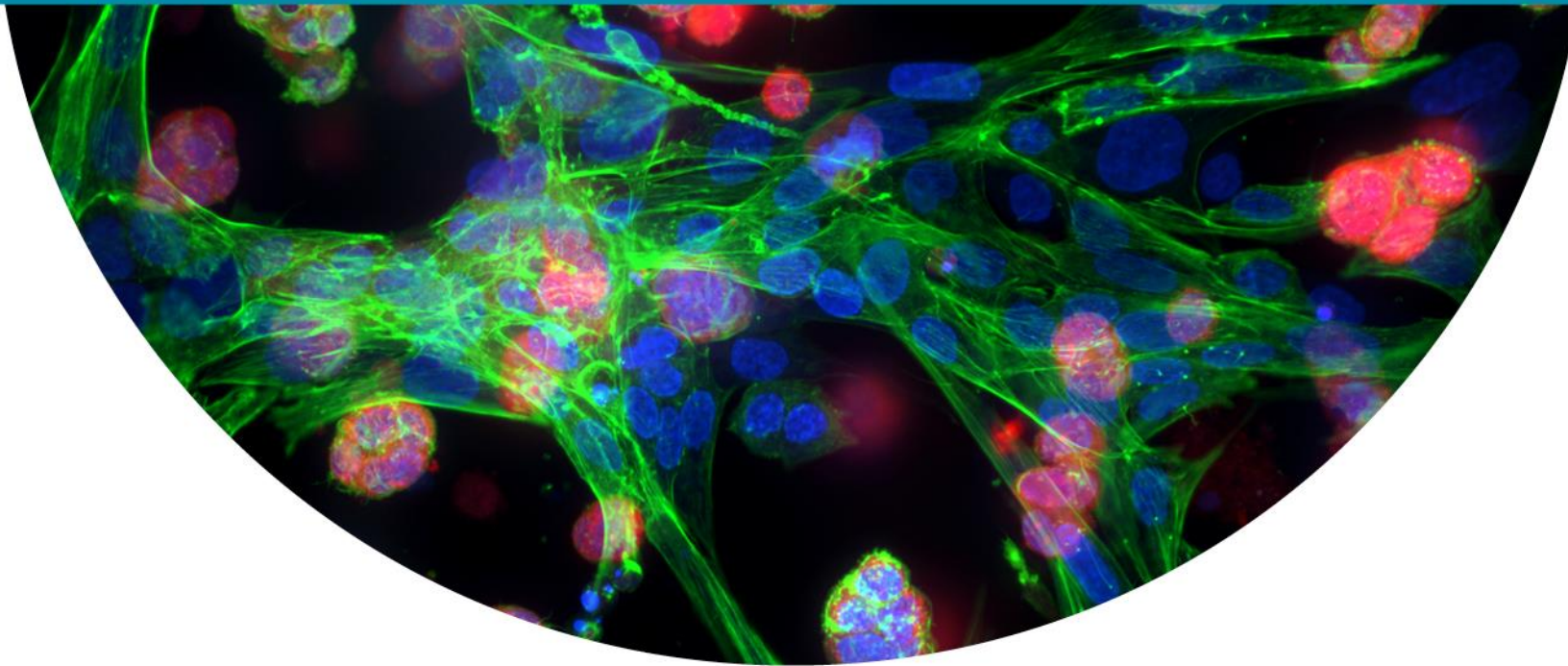
Run Experiment button



Name	Owner	Start Time	Acquisition Status	Image Processing Status	Analysis Status	Cancel
TL-GFP Transfection Efficiency 10X	tim.baranowski@moldev.com	Aug 2, 2017 15:06	Aug 2, 2017 15:20 Succeeded		Succeeded	Succeeded
			Device desktop-pjbbh3o Addresses 10.133.18.75,169.254.255.254 Progress N/A		Service amsnv--hgc8kv1 Progress N/A	Service amsnv--hgc8kv1 Progress 56 / 56

Acquisition progress as shown in the **Monitor** panel





Configure new acquisition and analysis



ACQUISITION

Start new experiments by acquiring images from a device.



EXPERIMENTS

Review experiments and run analysis.



STATUS

Monitor acquisition and analysis progress on all devices on the network.



CONFIGURATION

Manage labware and stain libraries, register devices and services



DEVICES

Manage devices

Select the **Acquisition** panel.

moleculardevices.com
moleculardevices.com/contact
US (Toll-free) 1-800-635-5577
UK (Freephone) 00800-665-32860

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Not for use in diagnostic procedures.

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1. Click **Add Protocol** at top left of the page.



Molecular Devices

Aug 1, 2017 13:54



New Plate Acquisition

New self-guided plate acquisition and analysis.



Molecular Devices

Aug 1, 2017 13:54



New Plate No Analysis

New self-guided plate acquisition.

2. Select the **New Plate Acquisition** card.

Molecular Devices

Aug 1, 2017 13:54



New Slide Acquisition

New self-guided slide acquisition.

Molecular Devices

Aug 1, 2017 13:54



Plate FL Single Channel

New self-guided plate acquisition and analysis.



Molecular Devices

Aug 1, 2017 13:54



Stitched Plate Acquisition

New self-guided plate acquisition with stitching



Molecular Devices

Aug 1, 2017 13:54



Stitched Slide Acquisition

New self-guided slide acquisition with stitching



Molecular Devices

Aug 10, 2017 22:54



Angiogenesis

Single channel assay for detecting and measuring blood vessels.



Molecular Devices

Aug 10, 2017 22:54



Apoptosis Assay (Caspase 3/7)

2-channel assay using both a nuclei marker and one to identify apoptotic cells.



Molecular Devices

Aug 1, 2017 13:54



Molecular Devices

Aug 1, 2017 13:54



Molecular Devices

Aug 1, 2017 13:54



Molecular Devices

Aug 1, 2017 13:54



STEPS



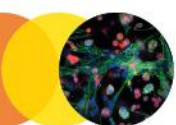
Acquisition Device

Available Acquisition Devices

Online ● ☆

Click on the **Acquisition Settings** icon

Device Name	AMSNVL-4T7SXF2	Connected on	amsnvl-4t7sxf2	IP	169.254.139.233
Serial Number	16ABC521C370_8091	Version	2.0.6648.20242		169.254.241.106
Device Model	IX Pico	Free space	54.35 GB	MAC	14ABC521C374
					025041000001
					🗑️ 5 📷 4 📧 0



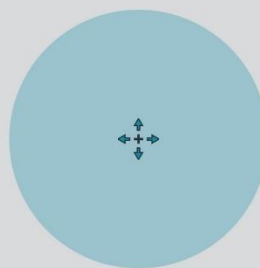
STEPS HISTORY

Acquisition Settings

Select your **Plate format** from the list



A1



2.63 mm

PLATE FORMAT

Search

384 (24x16)
384 Corning 3712

384 (24x16)
384 Corning Collagen Coated 354667

384 (24x16)
384 Greiner 781091

384 (24x16)
384 Matrical Glass bottom

96 (12x8)
96 BD PDL 354640

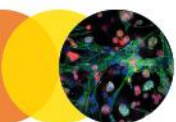
96 (12x8)
96 Corning 3603

96 (12x8)
96 Corning Collagen Coated 354649

96 (12x8)
96 Greiner 655090

96 (12x8)
96 Well Plate

TOOLS



Acquisition Settings

Select your **Stains** from the list. Click on the color square to toggle on and off. The order of the stains can be changed using the arrows to move the stains into the desired order.

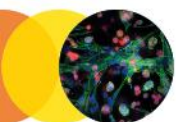
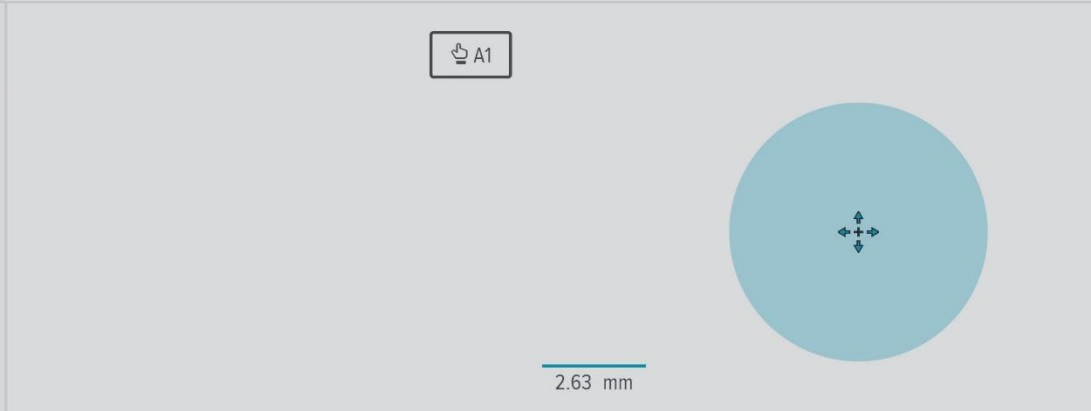
STAINS

	DAPI	↓
	FITC	↑ ↓
	TRITC	↑ ↓
	Cy5	↑
	TL	↓

TOOLBAR: 96, Water, 4x, Camera

STEPS: Microscopy, Camera, f(x)

HISTORY: A1, A1, Settings, Color, Scale



STEPS HISTORY

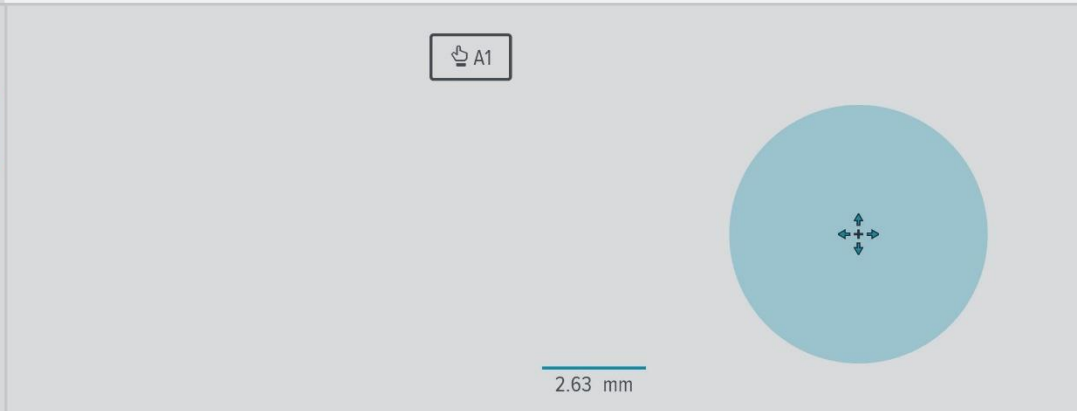
Acquisition Settings

Select your **Objective** from the list

OBJECTIVES

- Search
- 4x** 4.13mm x 3.46mm
PL FLUOTAR 4x/0.13 objective
- 10x 1.65mm x 1.39mm
HC PL FLUOTAR 10x/0.32 objective
- 20x 0.83mm x 0.69mm
HC PL FLUOTAR 20x/0.40 objective
- 40x 0.41mm x 0.35mm
HC PL FLUOTAR L 40x/0.60 CORR objective
- 63x 0.26mm x 0.22mm
HC PL FLUOTAR L 63x/0.70 CORR objective

Vertical toolbar with icons for microscope, camera, focus, and various acquisition parameters.



STEPS HISTORY

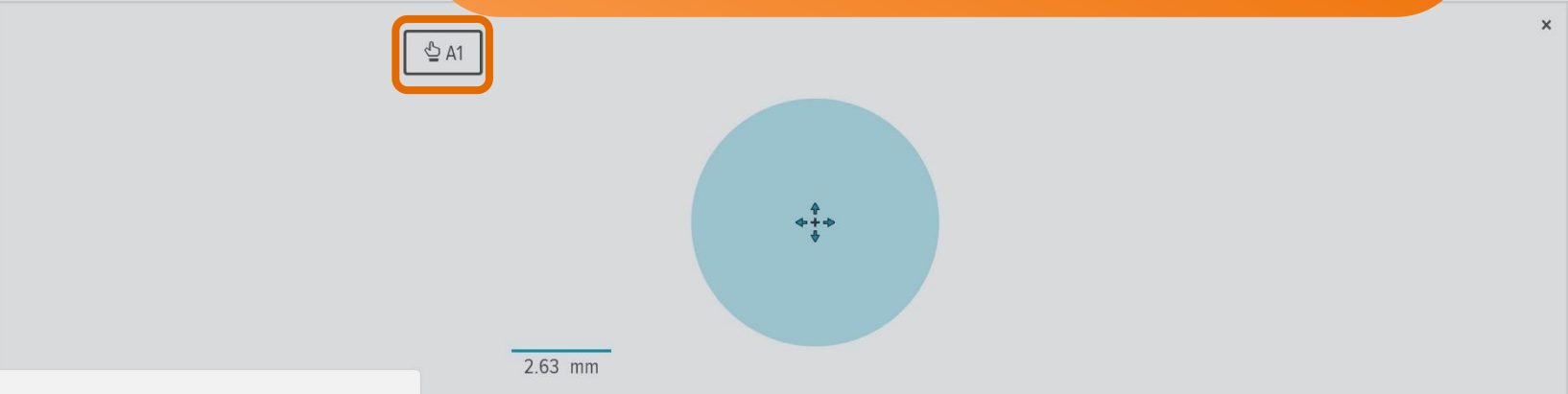
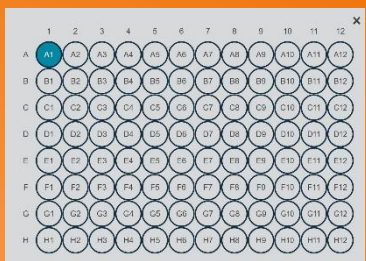
Acquisition Settings

TOOLS

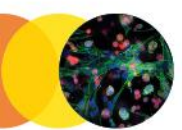


1. Choose the **Well and Region to Acquire** icon (if not already selected by default).

2. Click the blue **A1** icon and select a well to configure settings. This should be a positive control well. This will snap an image of the chosen well.



localhost/index.html#/?

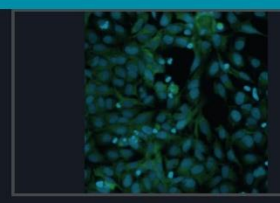
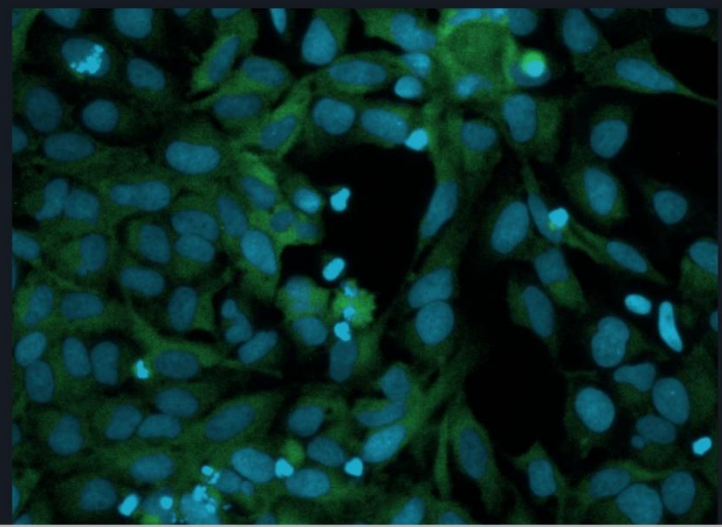


STEPS

HISTORY

+ - ↺ ↻

131.1 μm



TOOLS

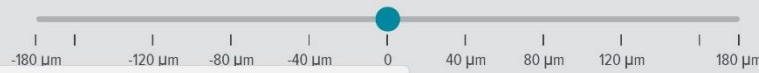
96, 4x, Camera

Click on the Focus/Exposure settings icon.

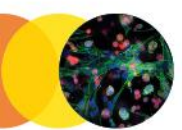
Mode: PlateAndWe

Exposure (ms)

< 10 > Auto



localhost/index.html#/
19



Acquisition > New Plate Acquisition

STEPS HISTORY

A1

131.1 μm

DAPI FITC

Focus offset (μm)

< 0 > Auto

Mode: PlateAndWe

Exposure (ms)

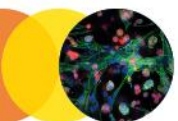
< 10 > Auto

-180 μm -120 μm -80 μm -40 μm 0 40 μm 80 μm 120 μm 180 μm

0.1 ms 10 ms 100 ms 1 s 10 s

localhost/index.html#/
x

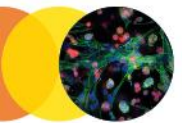
If the image is not already in focus, automatically adjust focus position by clicking on the **Auto** button **Focus offset** box. Alternatively, manual adjust focus by clicking the arrows or typing an offset value into the field.





1. Click the **Auto** icon on the right side to set the exposure time.

2. Repeat this step for each wavelength. By selecting the next underlined wavelength tab.



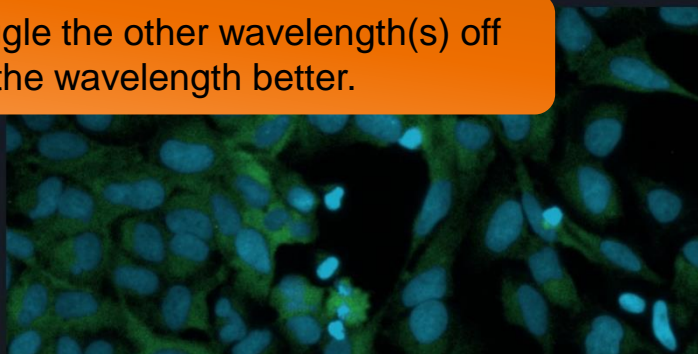
STEPS

HISTORY



If necessary, toggle the other wavelength(s) off so you can see the wavelength better.

131.1 μm



You may need to adjust the image brightness in order to see your signal clearly.

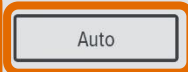
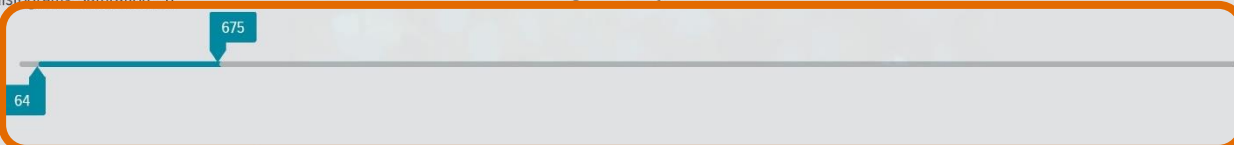
Click on the **Image Intensity Settings** icon and click the **Auto** button to the right. Alternatively, click drag the sliders to change the image brightness manually.

DAPI FITC

Synchronize Histograms Saturation: 51

Image Intensity Scale

Channel Color



TOOLS



1. Select the Region Selection to Acquire icon

4.13 mm

3.46 mm

Site #1 Selected Actual to capture Field Of View

Actual Coverage 41.97% Covered Area 14.27 mm² Storage per Well 61.18 MB

Region Selection to Acquire

FROM CENTER

Target area in %

33.01% |-----| 100%

of X sites

1 |-----| 2

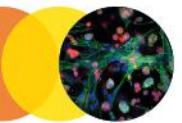
of Y sites

1 |-----| 2

AUTO MANUAL

2. Select the region to acquire images from in each well. The default setting is one image in the center of the well. To adjust the region increase the number of sites by selecting the arrows or typing in the field.

Alternatively, customize regions to acquire by manual adding regions.



Analysis Settings

On the right side, select the analysis you want to run.

Select the **Analysis Settings** icon to setup an on-the-fly analysis

Nuclei

Target: DAPI

Nuclei

Intensity:

Min Width:

Max Width:

Manual Auto Reset

CHOOSE ANALYSIS

Analysis ON

Cell Count
Single channel assay for counting cells based on a nuclei stain.

Search

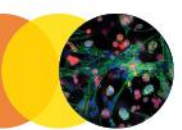
Angiogenesis Skeletonization
Single channel analysis for detecting and measuring blood vessels.

Apoptosis
2-channel analysis using both a nuclei marker and one to identify apoptotic cells.

Autophagy
2-channel assay for detecting autophagic granules.

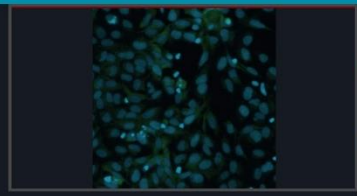
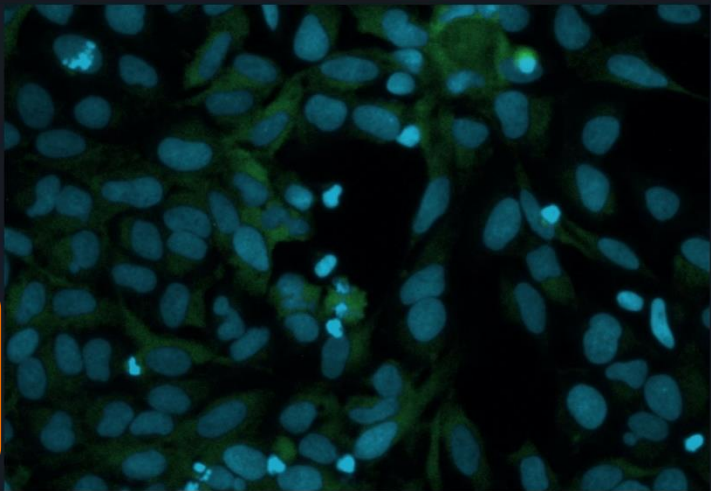
Biostrategies IL Plate Pits Vesicles CB
2-channel assay for detecting GPCR pits and vesicles.

Biostrategies IL plate with vesicles round 2
2-channel assay for detecting GPCR pits and vesicles.



STEPS

Microscopy icons: +, -, Refresh, Zoom, Camera, AI, f(x), Target, Manual, Auto, Reset



Icons for f(x), AI, Target, Manual, Auto, Reset

2. Click the flashing **Test Analysis** icon to bring up an image and test the default settings.

1. Select the wavelength of the target object.

Nuclei

Target: DAPI

Nuclei Intensity: 100

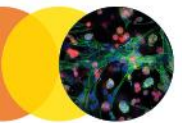
Min Width: 5

Max Width: 30

Manual **Auto** Reset

3. Click on the **Auto** button to automatically define width and intensity parameters of the object of interest by clicking on the objects within the image.

Re-select the flashing **Test Analysis** icon to test new settings. Adjust settings as needed.

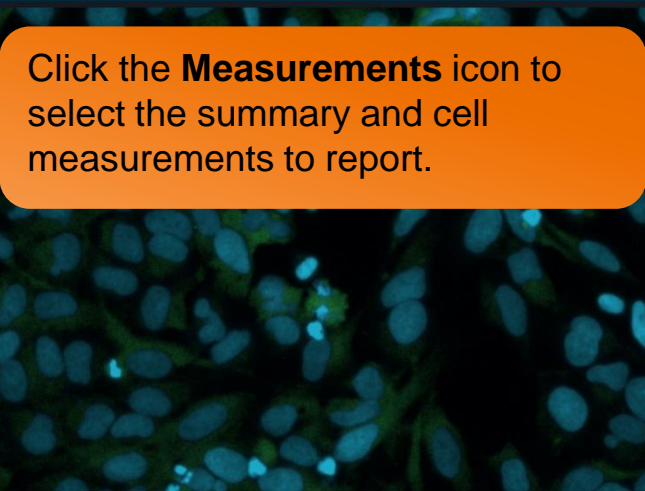


STEPS

- Microscopy icons
- Measurement icons
- Target selection icon
- Analysis icons

Control panel with +, -, Refresh, and Zoom icons. Includes an OFF button and a scale indicator.

26.22 μm



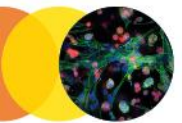
Nuclei configuration panel. Includes a Target dropdown (DAPI) and Nuclei settings for Intensity (100), Min Width (5), and Max Width (30). Buttons for Manual, Auto, and Reset are at the bottom.

MEASUREMENTS panel. Includes Summary Measurements and Cell Measurements tabs. Buttons for Select / Deselect All, Recommended, and Export are present. A list of measurements with their values and ON/OFF toggle buttons is shown.

Measurement	Value	Status
Cell Count	128	ON
Cell Total Intensity	44575.1	ON
Cell Average Intensity	348.243	ON
Cell Total Integrated Intensity	2.43831e+7	ON
Cell Average Integrated Intensity	190493	ON
Total Area	8195.47	ON
Average Area	64.0271	ON

- Measurement icons
- Help icon

localhost/index.html#



STEPS

+ - ↺ ↻

OFF

26.22 μm

Nuclei

Target: DAPI

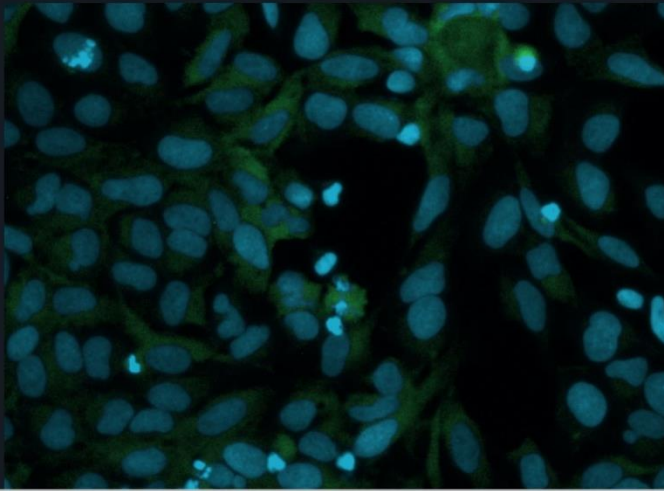
Nuclei

Intensity: 100

Min Width: 5

Max Width: 30

Manual Auto Reset



SAVE ANALYSIS

Analysis Settings:

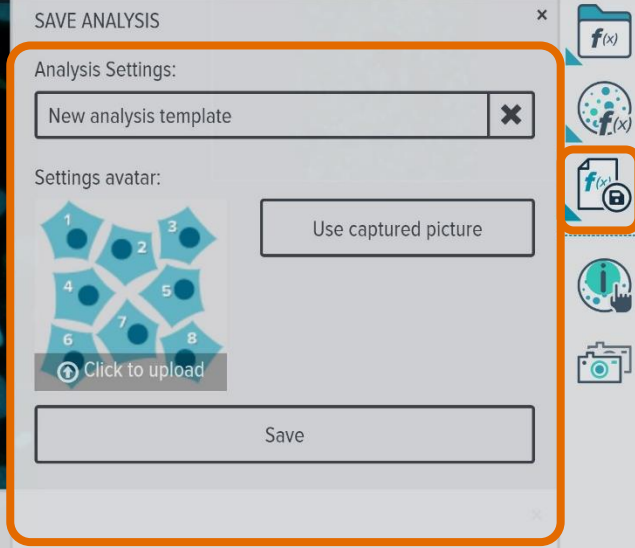
New analysis template

Settings avatar:

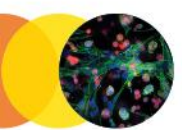
Use captured picture

Click to upload

Save



Click on the **Save Analysis** icon to save the analysis settings.

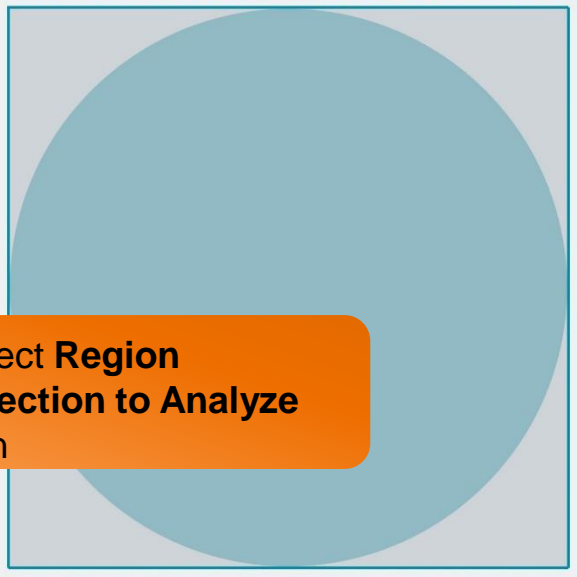


STEPS



Region Selection to Analyze

Analyze Entire Acquisition Area

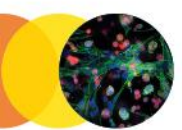


Select Region Selection to Analyze icon

The entire image will be analyzed by default.
To customize the region of analysis, toggle the **Analyze Entire Acquisition Area** button to the "OFF" position.
Add regions for analysis by adding a new region or resizing by dragging the blue corners of the region box.

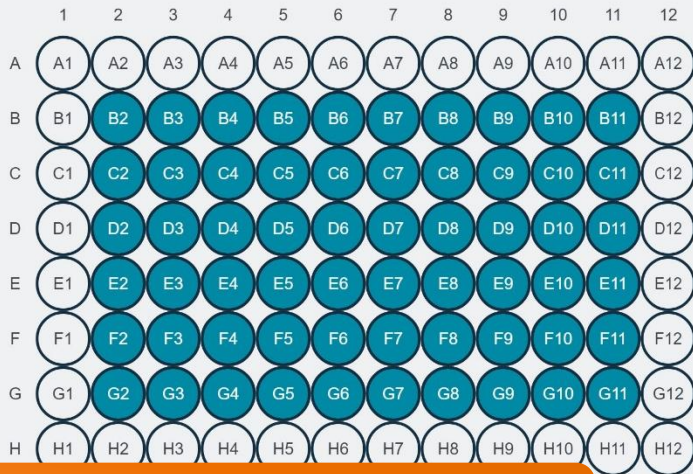
616.22 μm

Selected Actual to capture
Acquisition Area 8.55 mm² Analysis Area 8.55 mm²



STEPS

Well Selection

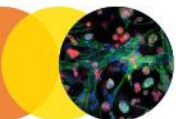


Vertical toolbar with icons for: Microscope, Selection (highlighted), Camera, f(x) function, and other acquisition controls.

Click on the **Well Selection** icon to select the wells to be imaged.

(A) Not Selected Well (B) Selected Well (C) Disabled Well (D) Unavailable Well

localhost/index.html#/?



2. Type a name (required) and description (optional) for your new acquisition protocol.

Protocol Name *

acquisition

Protocol Description

New self-guided plate acquisition and analysis.

Acquisition Parameters

Analysis Parameters

Plate	24x16	384 Greiner 781091
Stains	DAPI, FITC	
Objective	x4	4.13 x 3.46mm
Selected Wells	42	
Device	AMSNVL-4T7SXF2	169.254.139.233, 169.254.241.106

1. Click on the **Save Protocol** button

Save Protocol

3. Click the **Save Protocol** button.

2. Type in a name and description (optional) of your experiment.

Experiment Name*

Barcode

Experiment Description

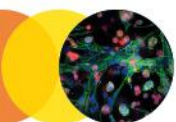
2. On the right side, click the flashing Run Experiment icon

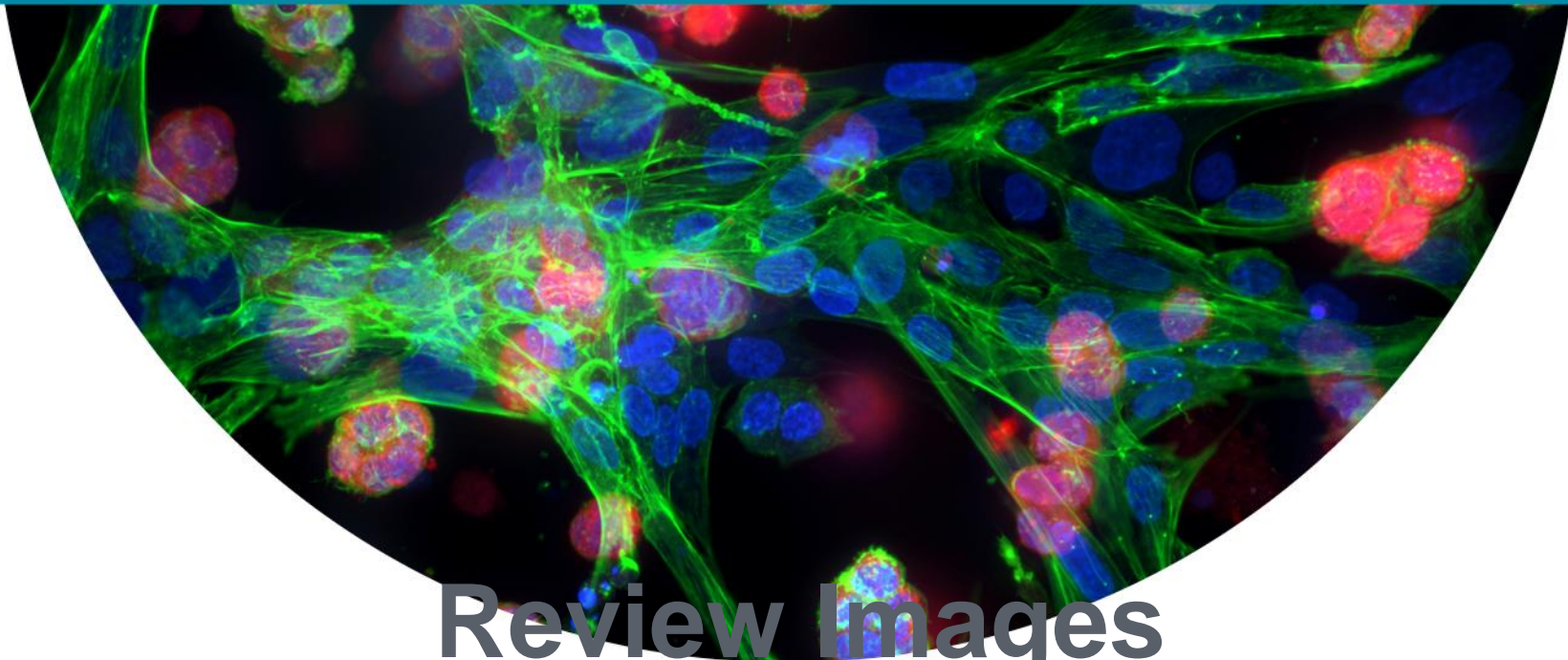


Validation Acquisition Parameters Analysis Parameters

✓	Plate	24x16	384 Greiner 781091
✓	Stains	DAPI, FITC	
✓	Objective	x4	4.13 x 3.46mm
✓	Focus and Exposure		
✓	Acquisition regions	1	
✓	Selected measurements	11	

1. Select the Run Protocol icon.





Review Images



Welcome to CellReporterXpress by Molecular Devices

Window Snip

ACQUISITION



Start new experiments by acquiring images from a device.

EXPERIMENTS



Review experiments and run analysis.

MONITOR



Monitor acquisition and analysis progress on all devices on the network.

CONFIGURATION



Manage labware and stain libraries, register devices and services

DEVICES



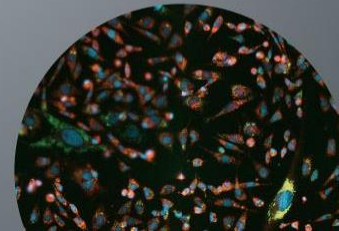
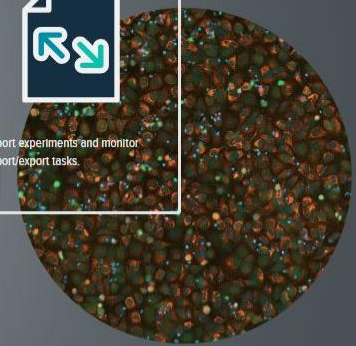
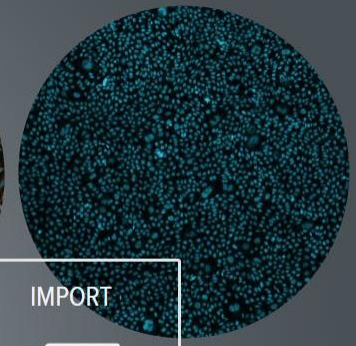
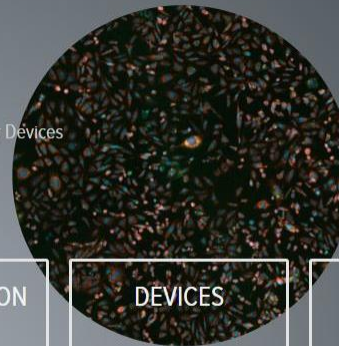
Manage Devices

IMPORT



Import experiments and monitor Import/export tasks.

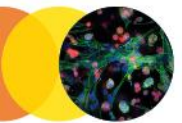
Select the **Experiments** panel.



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moldev ☆
Sep 20, 2017 01:05

DNA Damage with Analysis - Mitomy...

DNA damage, Greiner 384 well, HeLa cells, 20x, DRAQ5 nuclei (red), AF488 DNA spots (green) Mytomycin C dose response with high dose at top of columns Green nuclei indicate DNA damage. Cell scoring analysis file.

Cy5 FITC

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (56) [Grid Icon] [Checkmark Icon] [20x Icon] [User Icon]

moldev ☆
Sep 19, 2017 09:28

DNA Damage with Analysis - Etoposide

DNA damage, Greiner 384 well, HeLa cells, 20x, DRAQ5 nuclei (red), AF488 DNA spots (green) Etoposide dose response with high dose at top of columns Green nuclei indicate DNA damage. Cell scoring analysis file.

Cy5 FITC

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (56) [Grid Icon] [Checkmark Icon] [20x Icon] [User Icon]

moldev ☆
Sep 13, 2017 23:29

TL-GFP Transfection Efficiency

CHO M1 cells, 10X, 96 well plate, TL for all cells, DRAQ5 for nuclei, GFP-tagged DNA for transfected cells Lipofectamine (LiFe) and FUGENE to enhance transfection rates Should see more green cells with combo of higher LiFe/FUGENE

FITC Cy5

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (384) [Grid Icon] [Checkmark Icon] [10x Icon] [User Icon]

moldev ☆
Aug 21, 2017 17:54

Neurotox full plate app note

Neurotox assay, CDI iCell neurons (primarily GABAergic and glutamatergic), 7000 cells/well Falcon 384 well plate, 10x, Hoechst 33342 for nuclei, TUJ-1-Alex Fluor 488 for beta-tubulin (neuron bodies and neurites). Data response treatment

DAPI FITC

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (384) [Grid Icon] [Checkmark Icon] [10x Icon] [User Icon]

moldev ☆
Aug 11, 2017 23:28

Mitotox with Analysis

Mitotox, U2OS cells, 40x, DAPI for nuclei, mitotracker orange (TRITC) for mitochondria CCCP dose response with high dose at top of columns Should see more bright mitochondria (orange) at bottom of columns. Cell scoring analysis file.

TRITC DAPI

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (28) [Grid Icon] [Checkmark Icon] [40x Icon] [User Icon]

moldev ☆
Aug 11, 2017 23:25

Transfluor Vesicles with Analysis

Transfluor assay, Falcon 384 well plate, U2OS cells, 20x, DAPI for nuclei, GFP-tagged beta-arrestin for spots Isoproterenol dose response induces primarily vesicle formation, higher doses at top of columns. Isoproterenol analysis file.

DAPI FITC

Acquired Images [Dropdown] [Eye Icon]

24 x 16 (28) [Grid Icon] [Checkmark Icon] [20x Icon] [User Icon]

moldev ☆
Jun 30, 2017 01:55

Fluocells #6 Muntjac Cells at 20x Stit...

Fluocells #6 Muntjac Cells, 20x ELWD, AF488-phalloidin, AF555-oxphos complex V inhibitor, TO-PRO 3 not acquired, coverslip up, stitching

TRITC FITC

Acquired Images [Dropdown] [Eye Icon]

1 x 1 (1) [Grid Icon] [Checkmark Icon] [20x Icon] [User Icon]

moldev ☆
Jun 30, 2017 01:21

Fluocells #6 Muntjac Cells at 10x Stit...

Fluocells #6 Muntjac Cells, 10x, AF488-phalloidin, AF555-oxphos complex V inhibitor, TO-PRO 3 not acquired, coverslip up, stitching

TRITC FITC

Acquired Images [Dropdown] [Eye Icon]

1 x 1 (1) [Grid Icon] [Checkmark Icon] [10x Icon] [User Icon]

Select the card of your experiment from the experiment library.



Experiment Name	Geometry	Description	Barcode
Transflur Vesicles 20x	384 (24 × 16)	N/A	N/A

Operations

Annotation	Groups	Compounds	Barcode
	0	0	N/A

Analyses | Acquisitions

+ Add Analysis

Transflur Vesicles
moldev
Jan 10, 2018 20:05
f(x) Internalization

Launch Duplicate

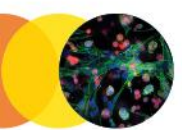
Transflur Vesicles

PLATE TIME VIEW | IMAGES | **PLATE VIEW** | SUMMARIZE DATA

INPUTS | TIME POINTS LIST

Granule	
Target	Granule
FITC	Intensity above background 50
	Min Width 1
	Max Width 5
Nuclear	
Target	Nuclear
DAPI	Intensity above 100

To view the whole plate at once, click on the **Thumbnail View** icon



Plate

T1 T1

Thumbnail View

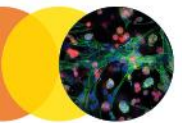


Double click on any thumbnail to see the corresponding full resolution image.

Vertical toolbar with icons for: Information, Zoom, Crop, Download, Save, and Home.

Summary

Cellular



Experiments > Transfluor Vesicles 20x > Transfluor Vesicles

Plate

T1

B14

185.42 μm

To view full resolution images, click on the **Images** icon

