

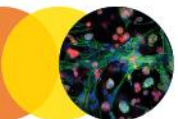
# CellReporterXpress<sup>®</sup> Software Guide for setting up a Time Series Acquisition

Quick Start guide



# Support Resources

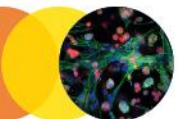
- Help button  within CellReporterXpress<sup>®</sup> Software
- Support and Knowledge Base: <http://mdc.custhelp.com>
- Email Technical Support:  
[support@moldev.com](mailto:support@moldev.com) (US)  
[techsupport.eu@moldev.com](mailto:techsupport.eu@moldev.com) (EU)
- Telephone Technical Support: 800-635-5577 (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 how to set up a Time Series Acquisition:

- Explains the 4 different Time Series Acquisition Orders
- Describes setting up duration and intervals for the Time Series Acquisition



**Time Series**

ACQUISITION ORDER

- All Wells
- Per Column (3)
- Per Row (14)
- Per Well (42)

DURATION: 1 [ms | s | min | h]

INTERVAL: 1 [ms | s | min | h] (Recommended 38 s)

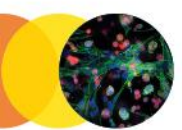
TOTAL TIME: ≈1000 ms

TIME POINTS: 2

Warning: Interval should not be less than recommended interval.

Time Series icon highlighted in sidebar

To setup a Time Series workflow, click on the **Time Series** icon



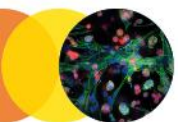
The default is set to have the Time Series turned off. Click on the **OFF** button to turn the Time Series on.

The screenshot shows the 'Time Series' configuration screen in the Transfluor software. At the top left, the breadcrumb navigation reads 'Acquisition > Transfluor'. The 'Time Series' title is centered at the top. A sidebar on the left contains various icons, with the 'OFF' button highlighted by an orange box. Below the title, there are four acquisition order diagrams: 'All Wells', 'Per Column (3)', 'Per Row (14)', and 'Per Well (42)'. The 'DURATION' and 'INTERVAL' sections each feature a numeric input field set to '1' and a unit selector with 's' (seconds) highlighted. A warning message at the bottom of the interval section states: 'Warning: Interval should not be less than recommended interval.' To the right, the 'TOTAL TIME' is displayed as '≈1000 ms' and 'TIME POINTS' as '2'. At the bottom left, a 'TIMELINE PREVIEW' shows a single bar representing a 1-second duration.

Time Series is now **ON**, and the settings can be configured.

The screenshot displays the 'Time Series' configuration screen in the Transfluor software. The interface is dark-themed with a teal header. At the top left, the breadcrumb navigation shows 'Acquisition > Transfluor'. The 'STEPS' sidebar on the left has an 'ON' button highlighted with a red box and a hand cursor. The main area is titled 'Time Series' and contains several configuration sections:

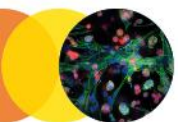
- ACQUISITION ORDER:** Four diagrams showing different well acquisition patterns: 'All Wells' (circular path), 'Per Column (3)' (vertical path), 'Per Row (14)' (horizontal path), and 'Per Well (42)' (circular path).
- DURATION:** A numeric input field set to '1' with unit buttons for ms, s, min, and h.
- INTERVAL:** A numeric input field set to '1' with unit buttons for ms, s, min, and h. A yellow warning bar below it reads: 'Warning: Interval should not be less than recommended interval.' The recommended interval is 38 s.
- TOTAL TIME:** A display showing  $\approx 1000$  ms.
- TIME POINTS:** A display showing '2'.
- TIMELINE PREVIEW:** A vertical timeline showing a single event bar labeled '1s' between two camera icons labeled '1' and '2'.



Select the **Acquisition Order** for your Time Series

The screenshot displays the 'Time Series' configuration page in the Transfluor software. The 'ACQUISITION ORDER' section is highlighted with an orange box and contains three options: 'All Wells' (selected), 'Per Column (3)', and 'Per Row (14)'. The 'All Wells' option shows a 2x2 grid of wells (A1, A2, B1, B2) with arrows indicating a circular path. The 'Per Column' option shows two columns with arrows pointing down. The 'Per Row' option shows two rows with arrows pointing right. To the right, the 'INTERVAL' is set to 1 second, and the 'TOTAL TIME' is approximately 1000 ms. The 'TIME POINTS' are set to 2. A 'TIMELINE PREVIEW' at the bottom shows a 1s duration with two time points marked.

**All Wells** is a more commonly used setting. All of the wells selected in the **Well Selection Step** will be imaged as timepoint 1 before repeating the imaging of the selected wells for timepoint 2.



The number of columns selected in the Well Selection step will appear here.

Acquisition > Transfluor

STEPS ON

Time Series

ACQUISITION ORDER

All Wells

Per Column (3)

Per Row (14)

Per Well (42)

DURATION

1

ms s min h

Warning: Interval should not be less than recommended interval.

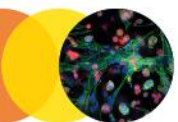
TOTAL TIME  $\approx 3000$  ms

TIME POINTS 2

TIMELINE PREVIEW

1s

**Per Column** performs a complete time series on all selected wells in a column, then moves on to the next column. The leftmost column is acquired first.





The number of rows selected in the Well Selection step will appear here.

Time Series

ON

ACQUISITION ORDER

All Wells

Per Column (3)

Per Row (14)

Per Well (42)

DURATION

1

ms s min h

INTERVAL

Recommended 2760 ms

1

ms s min

Warning: Interval should not be less than recommended interval.

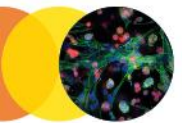
TOTAL TIME

TIMELINE PREVIEW

1s

1 2

**Per Row** Performs a complete time series on all selected wells in a row, then moves on to the next row. The topmost row is acquired first.



The number of wells selected in the Well Selection step will appear here.

Acquisition > Transfluor

Time Series

ON

ACQUISITION ORDER

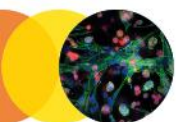
- All Wells
- Per Column (3)
- Per Row (14)
- Per Well (42)**

DURATION: 1

INTERVAL: 1

TIMELINE PREVIEW: 1s

**Per Well** is used for fast kinetic reads. A complete time series will be performed on a single well before moving on to the next well.



CRX will automatically present a recommended **Interval** value based upon the number of wells, number of regions, number of wavelengths, exposure times, and acquisition order.

Acquisition > Transfluor

STEPS

ON

Time Series

ACQUISITION ORDER

All Wells

Per Column (3)

Per Row (14)

Per Well (42)

DURATION

1

ms s min h

INTERVAL

Recommended 38 s

1

ms s min h

TOTAL TIME

≈1000 ms

TIME POINTS

2

Warning: Interval should not be less than recommended Interval.

TIMELINE PREVIEW

1s

1 2

CRX will generate a warning if the selected **Interval** is less than the recommended **Interval**. In the next slide we will address this warning by entering our desired **Duration** and **Interval** values with an **Interval** that is greater than the recommended value.

Acquisition > Transfluor

Time Series

ON

ACQUISITION ORDER

All Wells

Per Column (3)

Per Row (14)

Per Well (42)

DURATION

24

ms s min h

INTERVAL

Recommended 38 s

30

ms s min h

TOTAL TIME

≈ 24 h

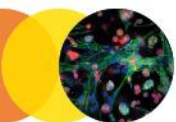
TIME POINTS

49

Select a **Duration** to establish to total time of the time series. This equates to the total time the plate will remain in the instrument for imaging. For a 24 hour experiment, select h for hours and type in 24.

Select an **Interval**, which is the space between time points in the time series. To image the plate every 30 min, select the min option and type in 30.

The total time and total number of time points will correspond with the **Duration** and **Interval** selected



### Time Series

ON

ACQUISITION ORDER

- All Wells
- Per Column (3)
- Per Row (14)
- Per Well (42)

DURATION: 24 (ms, s, min, h)

INTERVAL: 30 (ms, s, min, h) Recommended 38 s

TOTAL TIME: ≈ 24 h

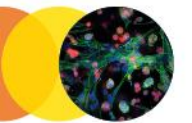
TIME POINTS: 49

TIMELINE PREVIEW

30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min 30 min

1 2 3 4 5 6 7 8 9 10 11 12 13

A preview of your time series will appear at the bottom of this window under the **Timeline Preview** section, which can be optionally scrolled through to view the entire list of time points.



Acquisition > Transfluor

Run Protocol

Experiment Name \*  
Transfluor

Barcode

Experiment Description

Go to the **Run Experiment** page to save your experiment name and run your experiment. There is also section in this window that shows the expected data storage requirement for running this 24 hour time series experiment.

Validation Acquisition Parameters Analysis Parameters

Plate	24x16	384 Greiner 781091	
Acquisition Total Time	24 h		
Stains	DAPI, FITC		
Objective	x4	4.13 x 3.46mm	
Focus and Exposure			
Acquisition regions	1		
Selected Wells	42		
Analysis regions	14.29 mm <sup>2</sup>		
Selected measurements	11		
Device	AMSNVL-BV88MH2	169.254.242.166	
Device Temp Storage	Instrument Storage	Free: 146.32 GB	Expected: 36.88 GB
Data Storage	AMSNVL-BV88MH2 C:\Users\Matthew.Hammer\Documents\CRX data sets		
Preserve Raw Images	No	Free: 146.26 GB	Expected: 49.18 GB
Workflow	Duration: 24 h Time Points: 49	Interval: 30 min Acquisition Order: All Wells	

