

LanthaScreen® Terbium Assay Setup Guide on the PerkinElmer ViewLux™ CCD Imager

NOTE: The PerkinElmer ViewLux™ CCD Imager was tested for compatibility with Invitrogen's LanthaScreen® Terbium-based TR-FRET Assay. The following document is intended to demonstrate setup of this instrument. For more detailed information and technical support of Invitrogen assays please call 1-800-955-6288, select option "3", then extension 40266. For more detailed information and technical support of PerkinElmer instruments or software, please call 1-800-762-4000 or by e-mail at productinfo@perkinelmer.com.

A. Recommended Optics

PerkinElmer part number	wavelength (nm)	diameter (mm)
Excitation Filter ¹ (14000101)	340/60	60
Emission Filter 1 *contact Chroma , custom part# D495/10m ²	495/10	60
Emission Filter 2 (11440175) ³	525/20	60
Dichroic Mirror ¹ (10866181)	400 UV/TRF	

¹ Standard excitation filter and dichroic set for TRF measurements

² Custom filter size of 60mm diameter, 5mm thickness

³ Not supplied as standard emission filter for fluorescein/FITC

B. Instrument Setup

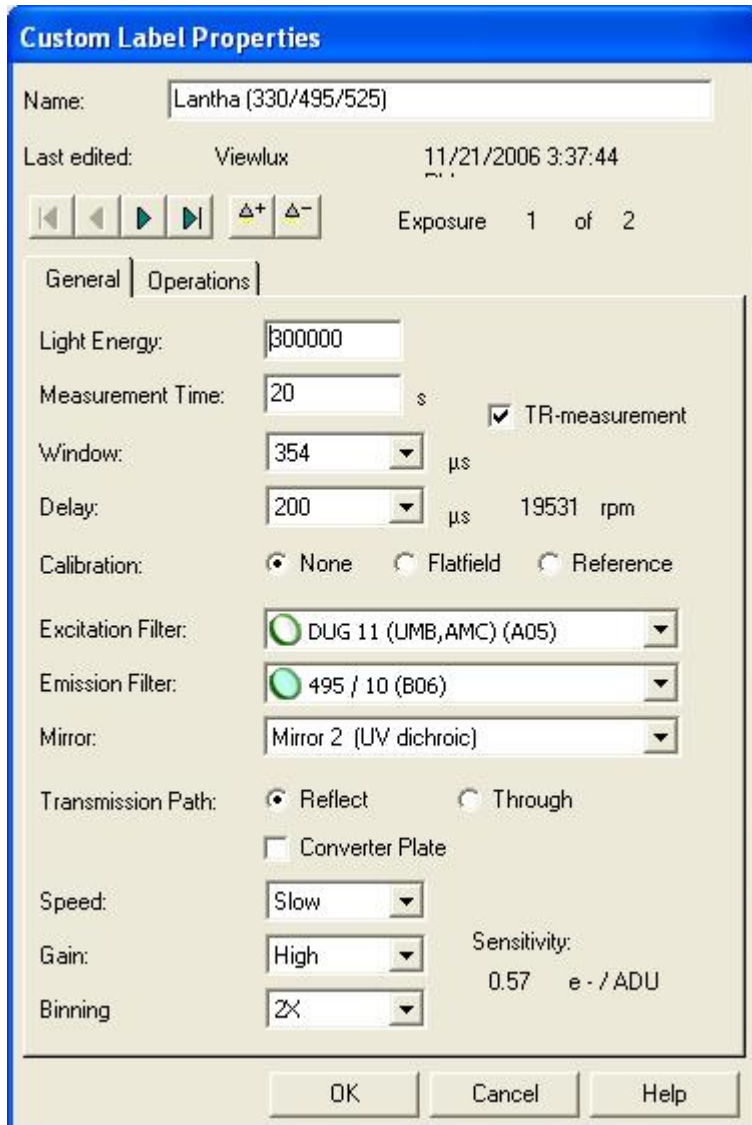
Note: This protocol setup is intended for ViewLux™ super-users or those familiar with the increased complexity of setting up the hardware and software on a CCD imager.

Note: We have found it unnecessary to establish a flat-field correction (FCC) when using LanthaScreen® on the ViewLux™. Due to the post-acquisition ratiometric calculation (525 acceptor emission / 495 donor emission), a FCC may not be critical for improved assay sensitivity and precision on the ViewLux™.

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Note: We have determined that the optimal plate type to be used on the ViewLux™ for LanthaScreen® assays is a black opaque NBS plate of various well densities. A white opaque plate may result in a decreased assay window (i.e. signal:background) and/or suboptimal assay precision (i.e. increased %CVs)

1. Channel 1 setup – terbium donor emission



Custom Label Properties

Name: Lantha (330/495/525)

Last edited: Viewlux 11/21/2006 3:37:44

Exposure 1 of 2

General | Operations

Light Energy: 300000

Measurement Time: 20 s TR-measurement

Window: 354 μs

Delay: 200 μs 19531 rpm

Calibration: None Flatfield Reference

Excitation Filter: DUG 11 (UMB,AMC) (A05)

Emission Filter: 495 / 10 (B06)

Mirror: Mirror 2 (UV dichroic)

Transmission Path: Reflect Through
 Converter Plate

Speed: Slow

Gain: High Sensitivity: 0.57 e- / ADU

Binning: 2X

OK Cancel Help

2. Channel 2 setup – fluorescein acceptor emission

Custom Label Properties

Name:

Last edited: Viewlux 11/21/2006 3:37:44

Exposure 2 of 2

Light Energy:

Measurement Time: s TR-measurement

Window: μs

Delay: μs 19531 rpm

Calibration: None Flatfield Reference

Excitation Filter:

Emission Filter:

Mirror:

Transmission Path: Reflect Through

Converter Plate

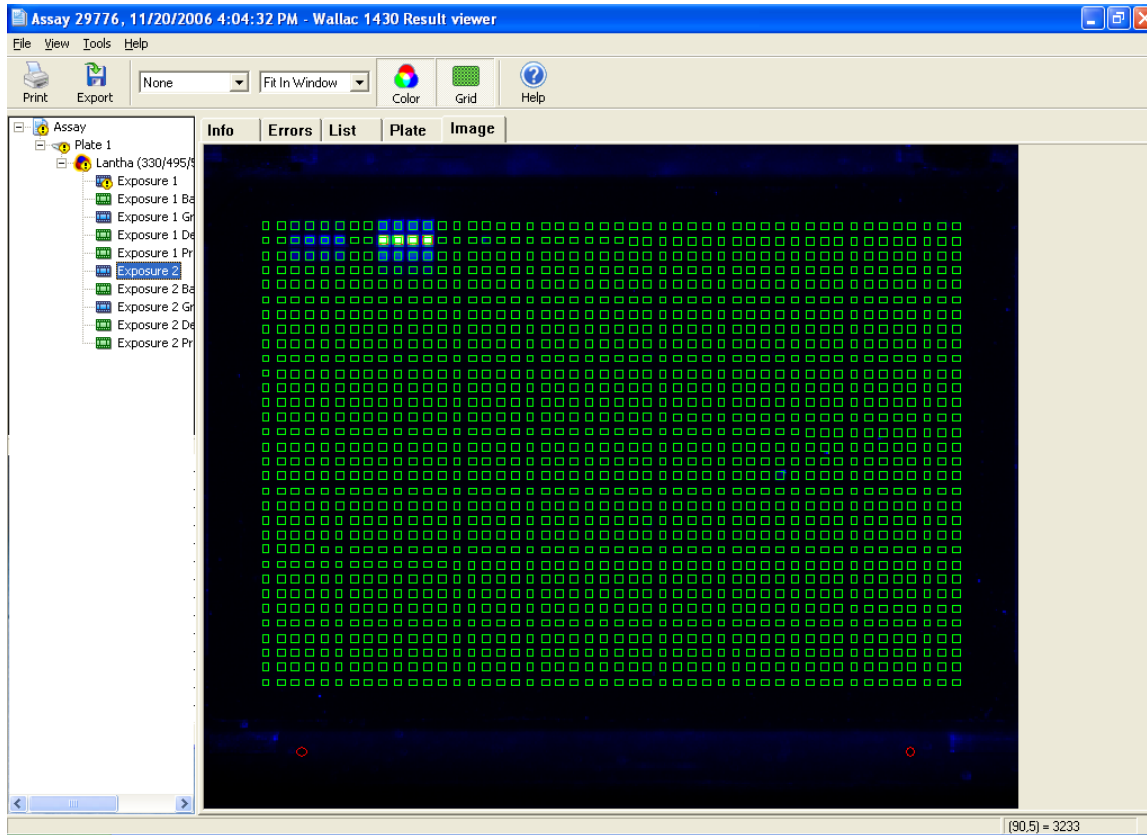
Speed:

Gain: Sensitivity: 0.57 e⁻ / ADU

Binning:

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3. Example of ViewLux™ image with grid overlay

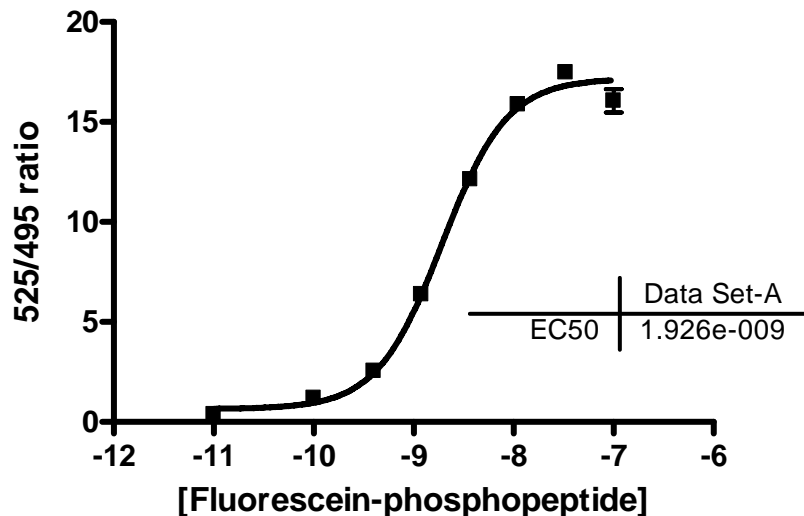


Have a question? Contact our Technical Support Team

NA: 800-955-6288 or INTL: 760-603-7200 Select option 3, ext. 40266 Email: drugdiscoverytech@invitrogen.com

4. Example of LanthaScreen® assay read on the ViewLux™ CCD imager

LanthaScreen
1536-well black Greiner, ViewLux
2nM Tb-PY20 Ab, 10uL volume



	S:B (at 1nM)	%CV (at 1nM)	Z' (at 1nM)	S:B (at 33nM)	%CV (at 33nM)	Z' (at 33nM)
1536-well black opaque	17	4.0	0.86	46	2.7	0.91