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

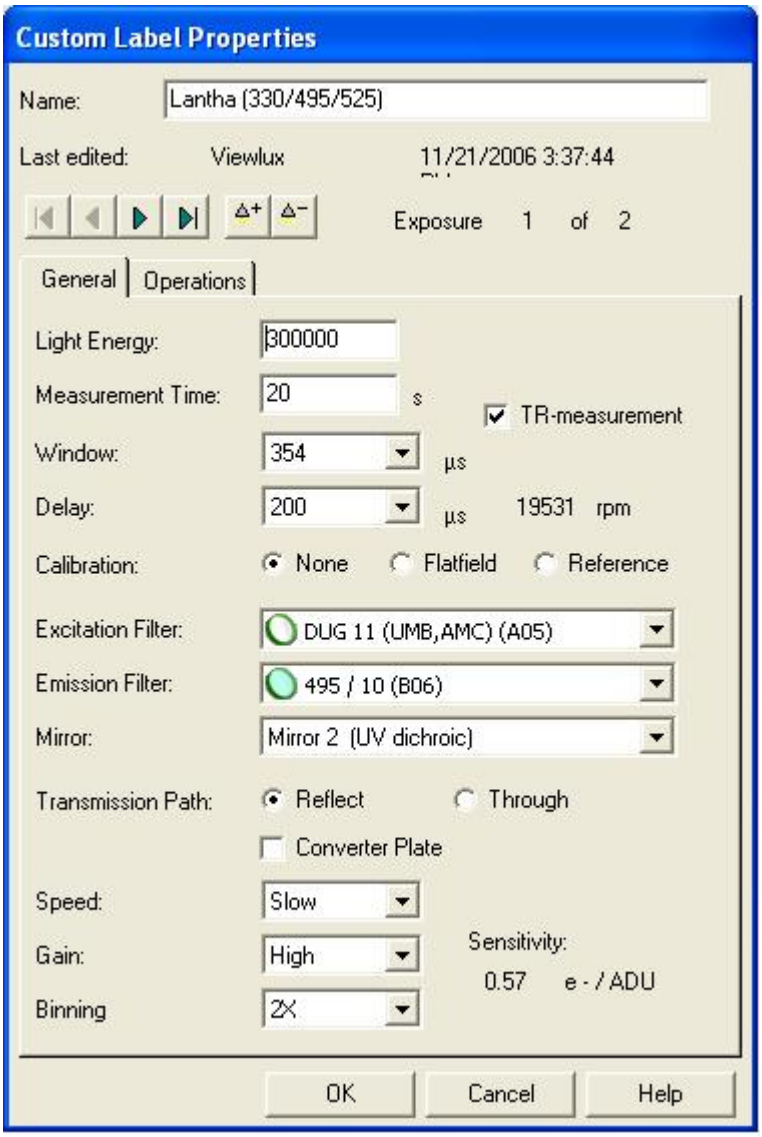
B. Instrument Setup

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.

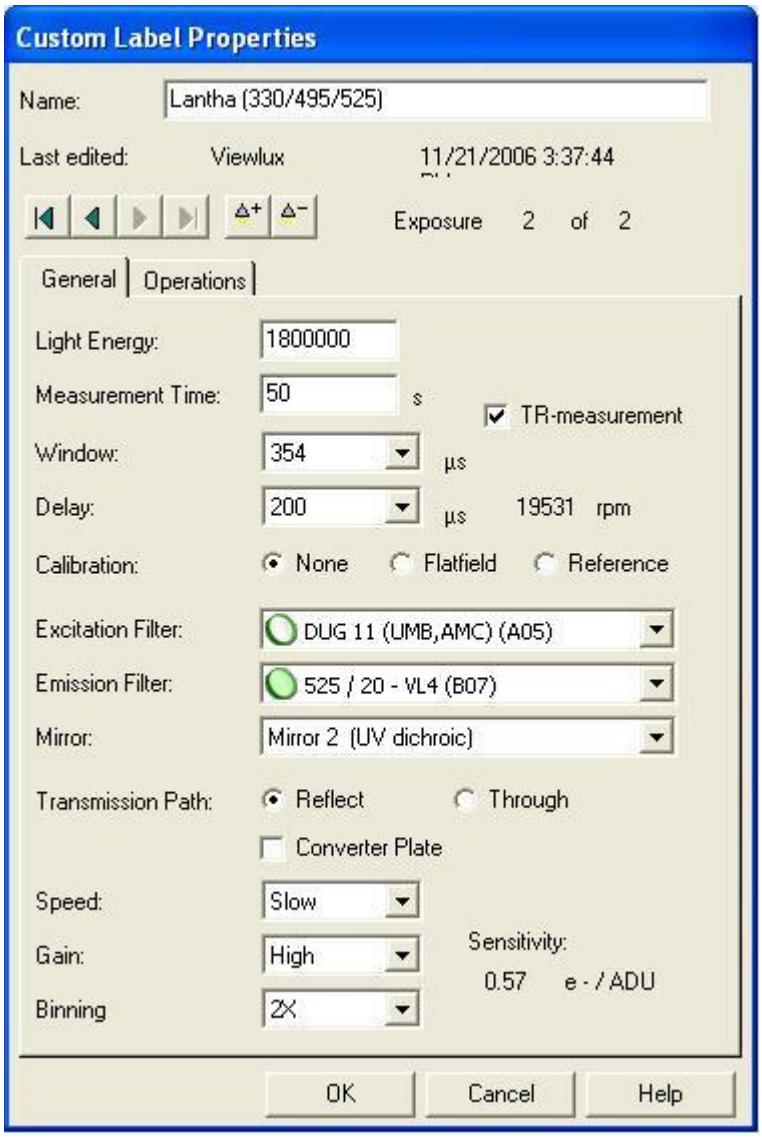
Note: We have found it unnecessary to establish a flat-field correction (FCC) when using LanthaScreen® on the ViewLux™. Due to the post-acquisition ratiometric calculation (525 acceptor emission / 495 donor emission), a FCC may not be critical for improved assay sensitivity and precision on the ViewLux™.

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)

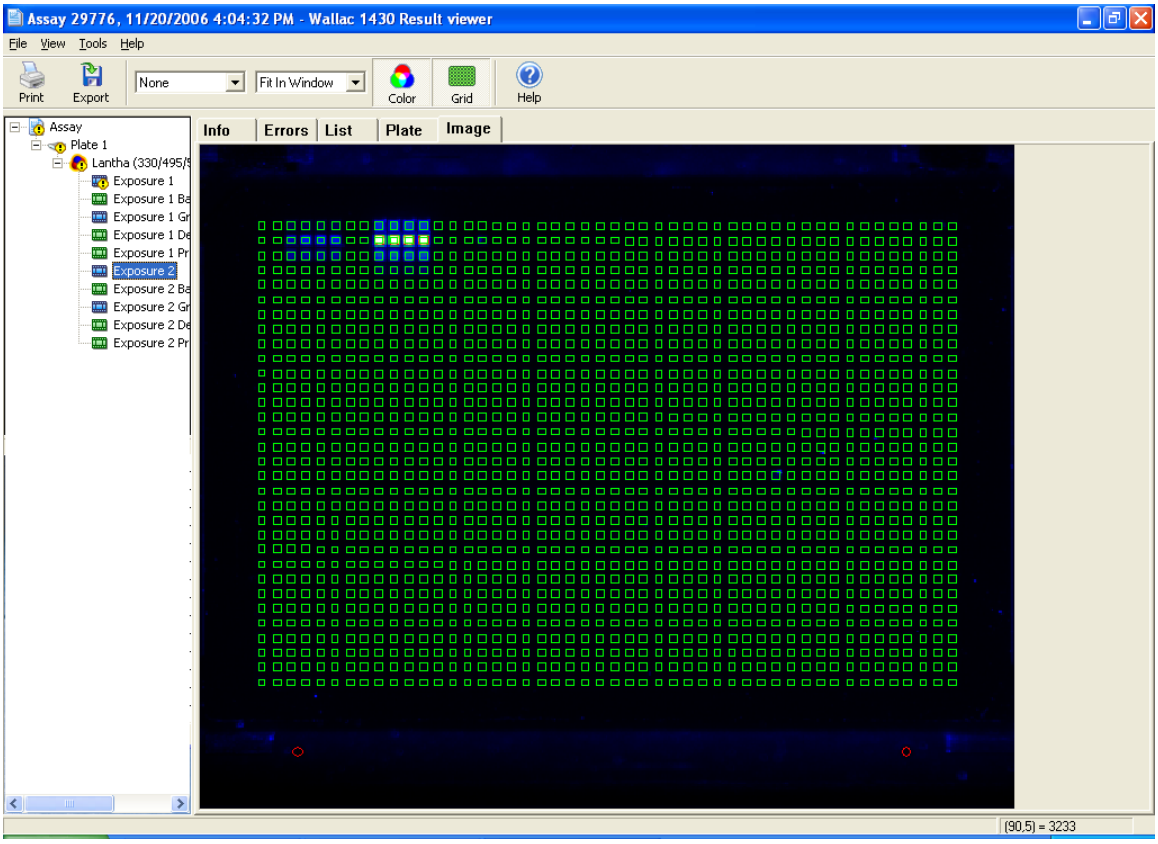
1. Channel 1 setup – terbium donor emission



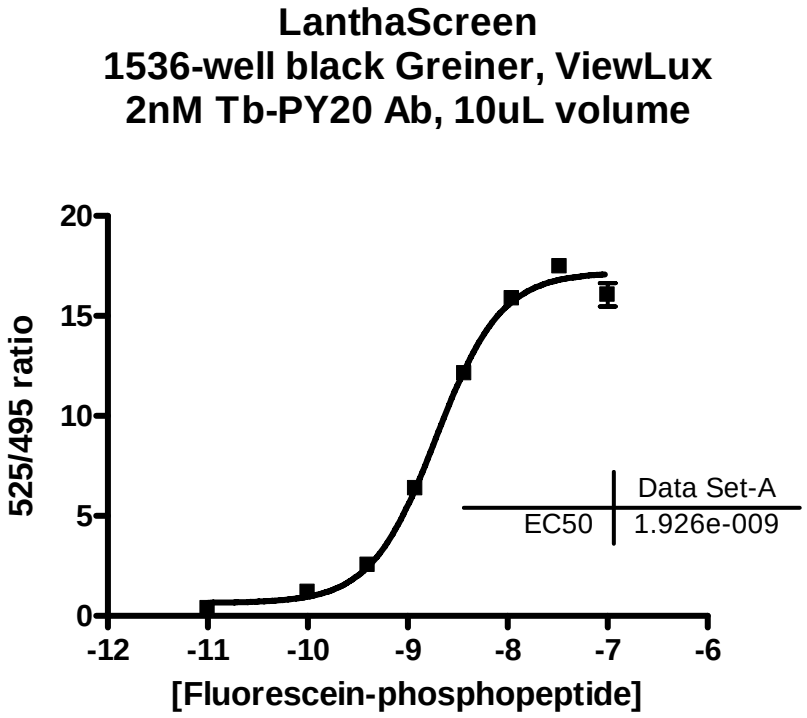
2. Channel 2 setup – fluorescein acceptor emission



3. Example of ViewLux™ image with grid overlay



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



	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