



Basic EnVision Training

Getting you up to speed on the EnVision

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Classroom

- Software Familiarization (classroom setting is preferred)
 - EnVision options overview and definition of what is on your system
 - Light source options
 - Filter, Beamsplitter, Dichroic, and Monochromator overview
 - Inventory tab review
 - Reagent technologies as a guide to why you would select certain options, light sources, filters, and mirrors
 - Protocol review (Measurement technology, Plate, and well selection/data analysis)
 - Preset protocol tab
 - Building protocols by using copy feature
 - Building your own protocols.
 - Basic Protocol optimization overview

Lab Training

- Hardware overview (in front of machine)
 - Proper power up sequence, and starting of software
 - Identify all of the key pieces of hardware
 - Demonstrate filter, mirror(top and bottom), and aperture changing
 - Show plate orientation, and identify the A1 location on plate holder
 - Using stackers (If applicable)
 - Dispenser Overview (If applicable)
- Basic programming of Protocols
- Optimization of 2-3 protocols User creates the protocol
- Demonstration of applying basic calculations and exporting data after assay has been run.
- Cover what is available in an Advanced Training session



HUMAN HEALTH | ENVIRONMENTAL HEALTH

Top 3 reasons to pay attention to this course...

- 1) You will learn how to use your EnVision
- 2) Once I leave...you're the EnVision expert
- 3) The Basic refresher course is \$3,000!

EnVision Options

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest

Navigation Tree

- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings**
- Recycle Bin

Reader Settings

Options | General | Stacker | TRF LASER | Database | Normalization

Options

Instrument nickname	EnVision
Serial number	1041618
Barcode Reader, short right side	Installed
Barcode Reader, long side that enters instrument first	Installed
Barcode Reader, long side that enters instrument last	Installed
2nd Detector	Installed
Stacker	Installed
Enhanced Luminescence	Not installed
AlphaScreen	Installed
Ultra Sensitive Luminescence	Installed
HTS AlphaScreen	Not installed
Temperature control	Installed
Dispenser	Not installed
Second light source	Installed
Excitation monochromator	Installed
Emission monochromator	Installed

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help



Navigation Tree

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- Barcode Settings
- Reader Settings
- Recycle Bin

Reader Settings

Options | General | Stacker | TRF LASER | Database | Normalization

Options

Instrument nickname	EnVision
Serial number	1041618
Barcode Reader, ...	Installed
Barcode Reader, ...	Ycite has 1 PMT and
Barcode Reader, ...	Stacker is bidirectional and
2nd Detector	Standard AlphaScreen. Used
Stacker	for Up to 1.5 logs more sensitive
Enhanced Luminescence	Top and Bottom control + Alpha
AlphaScreen	2 Injector System. Pre Post
Ultra Sensitive Luminescence	TRF Laser. 10X more energy, 4X
HTS AlphaScreen	more sensitive, >10X faster
Temperature control	Up to a Quad Monochromator
Dispenser	
Second light source	
Excitation monochromator	
Emission monochromator	



1. Xenon Flash Lamp

- FI,
- Abs,
- FP,
- FRET
- TRF
- TR-FRET

2. 337 Laser

- TRF
- TR-FRET

3. 680 Laser

- AlphaScreen
- AlphaLISA

4. Luminescent sample

- Glow
- Flash



Filter/Mirror Review



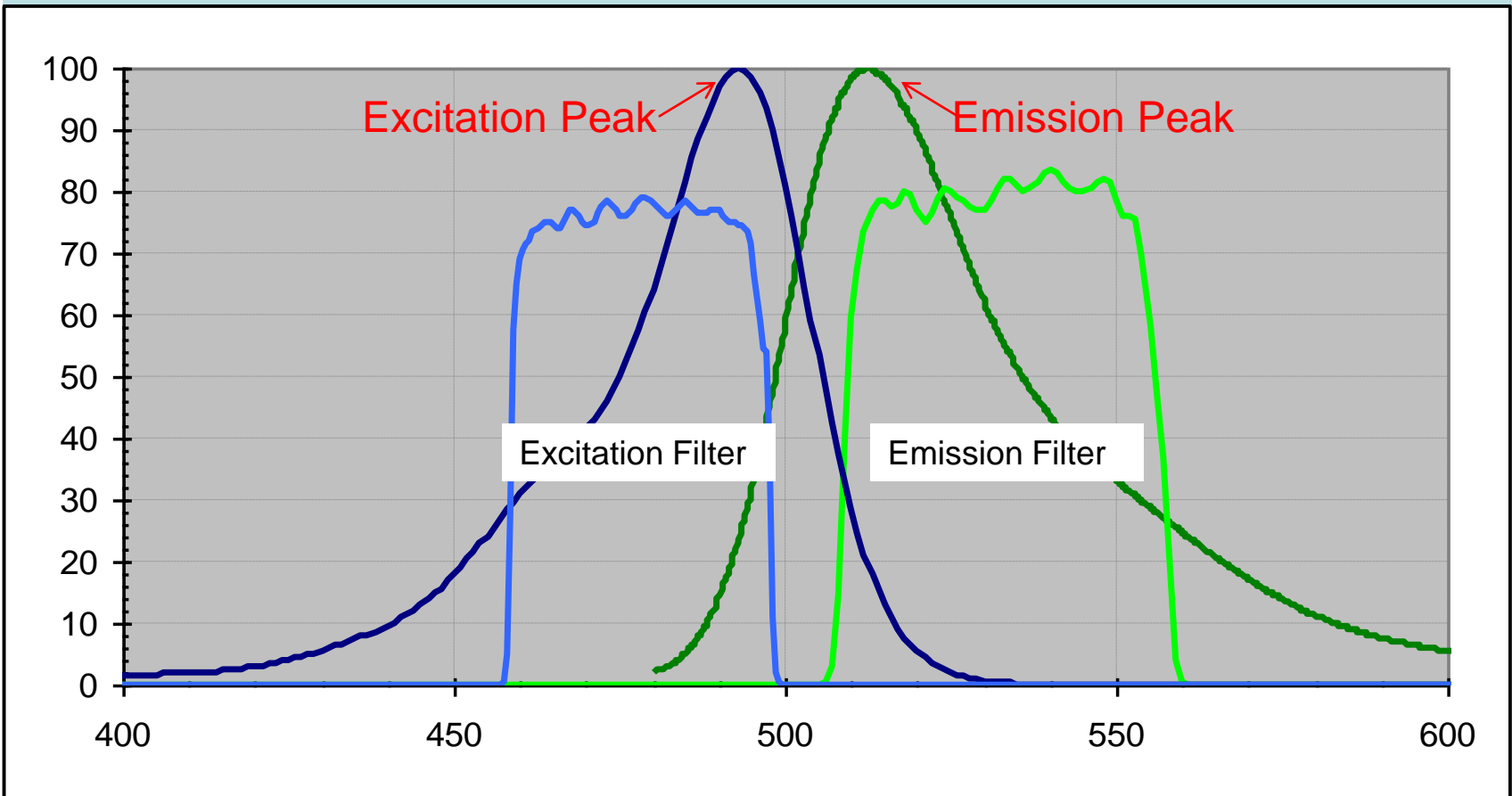
- EnVision can have up to 16 filters and 5 mirrors in the system at any time.
- All Filters and Mirrors are Barcoded
- Additional Filter slides allow for easy swapping of filters



Wavelength selection



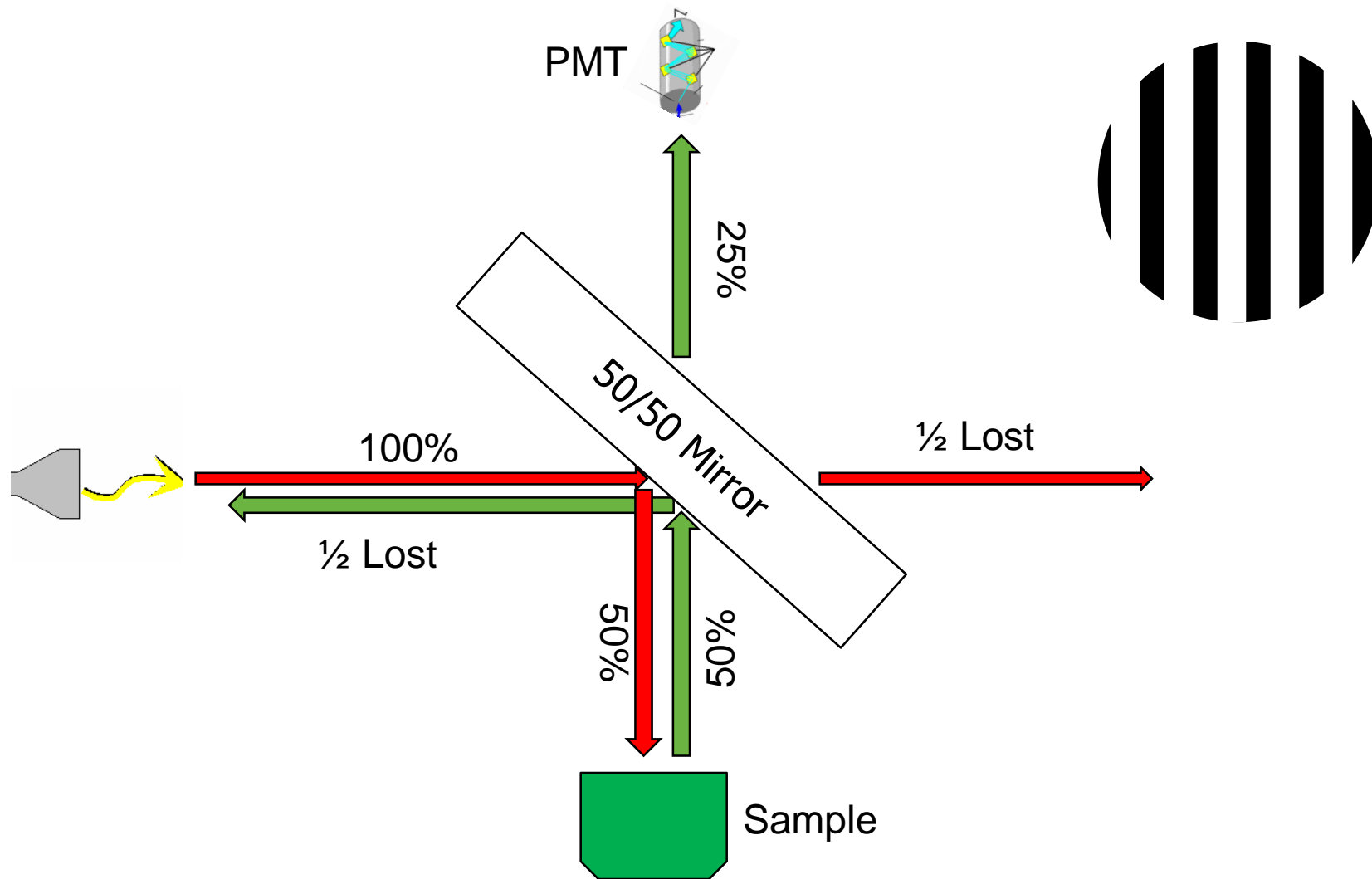
- EXCITATION LIGHT max 494 - EMISSION LIGHT max 517
- EXCITATION FILTER X485 - EMISSION FILTER M535





How do you get filtered light in and out of a well with something that is physically in the light path between the sample and the PMT

Principle of the Beam Splitter Mirror

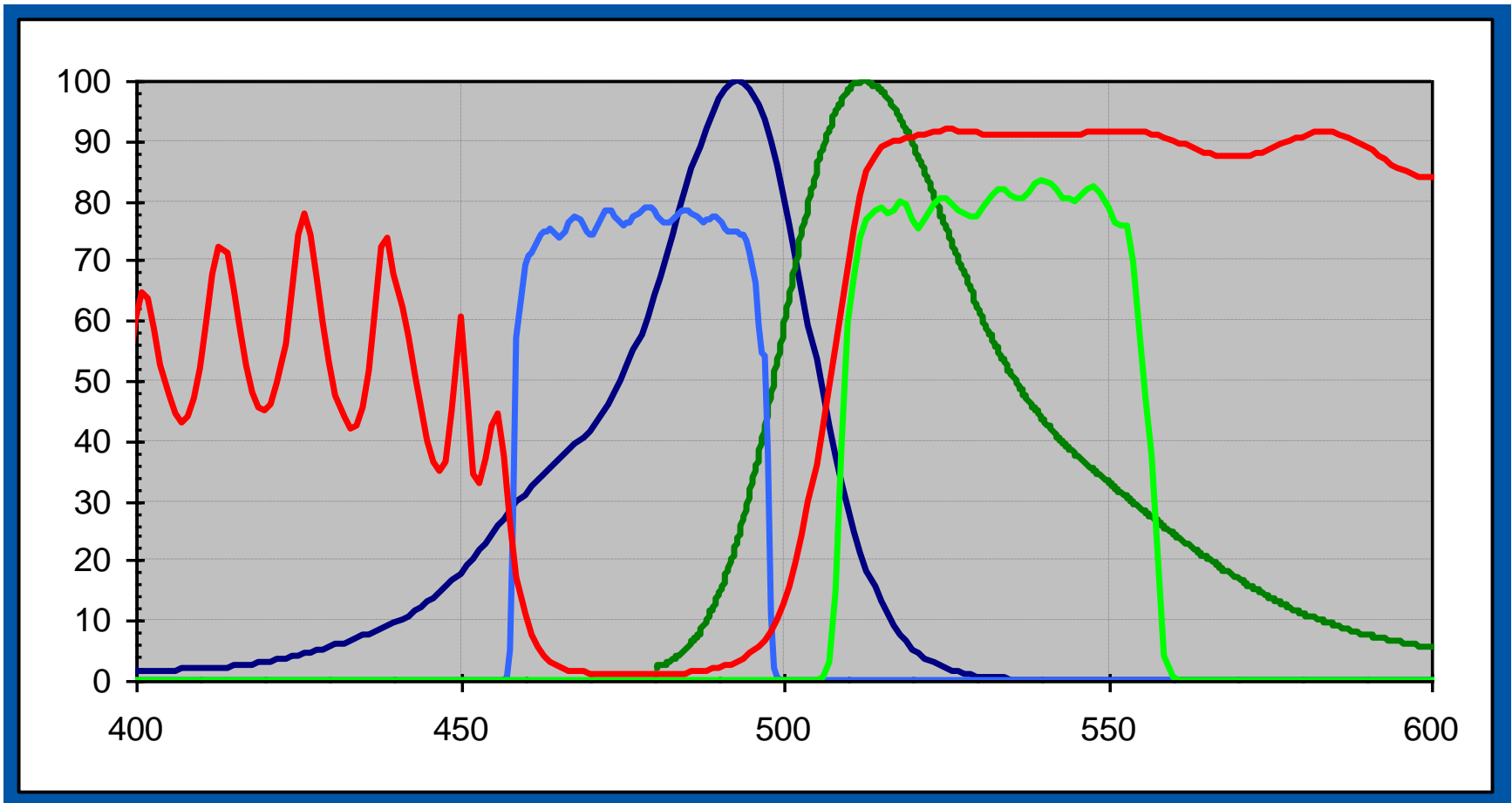


Filters

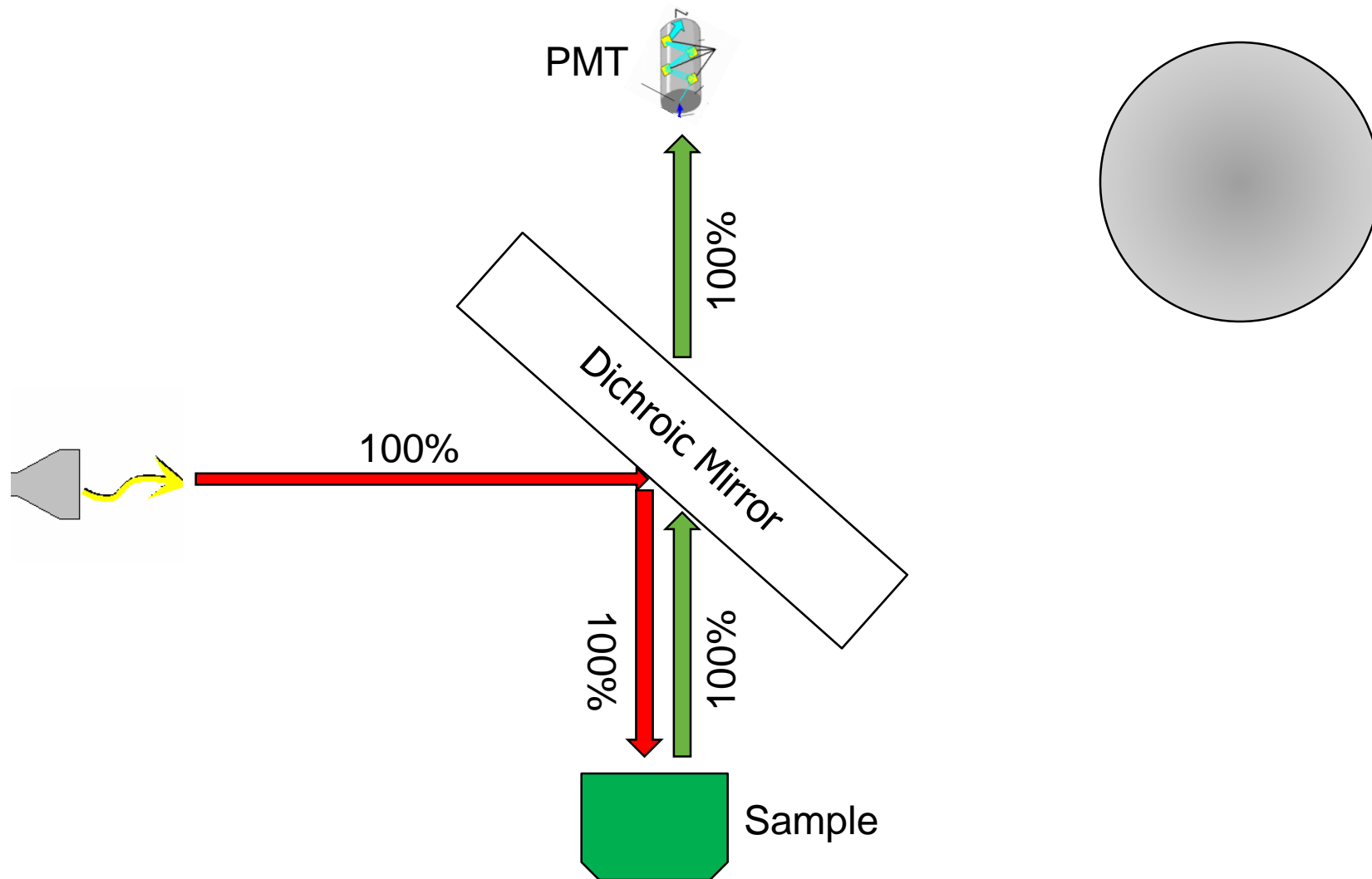
Wavelength selection

Monochromator

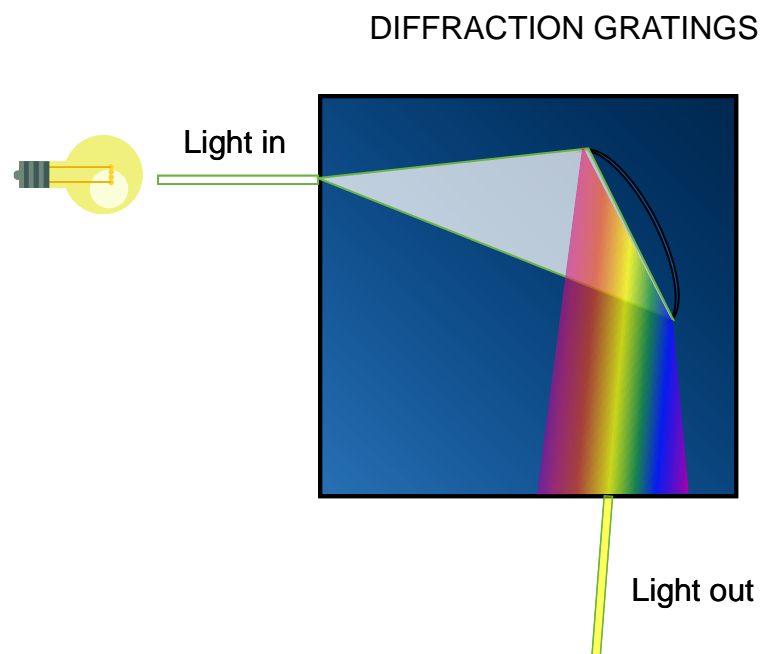
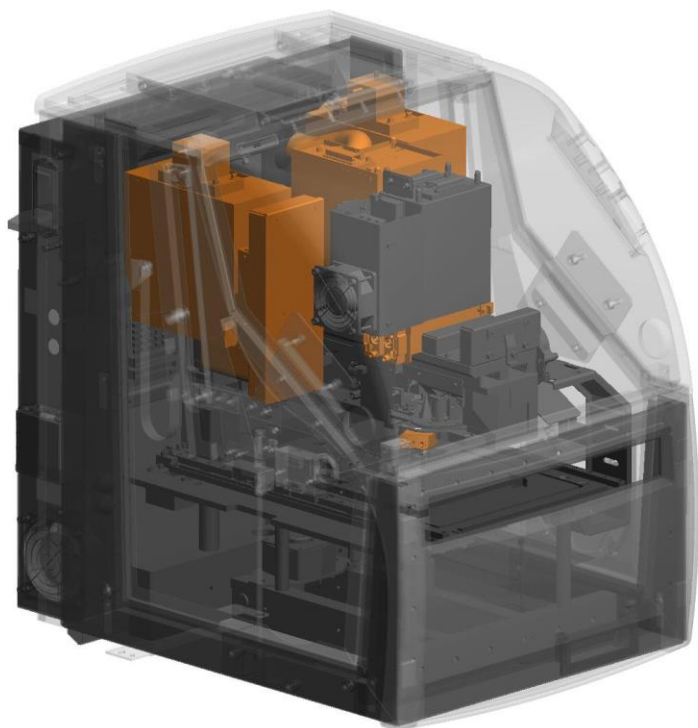
- EXCITATION FILTER X485 - DICHOIC MIRROR D505 - EMISSION FILTER M535



Principle of the Dichroic Mirror



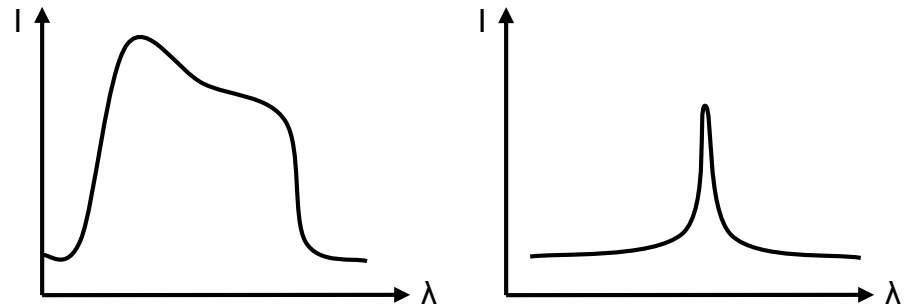
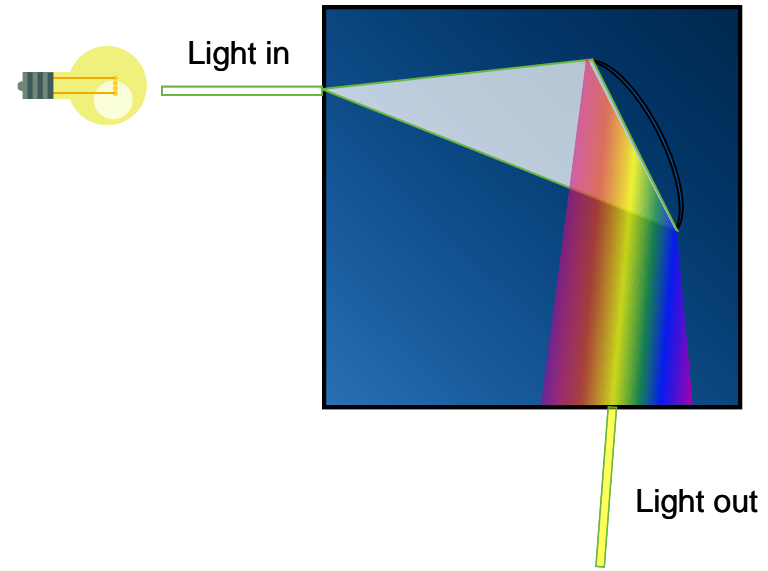
How does a Monochromator work?



Single Monochromator

Monochromators is an optical module that splits the the incoming light into partial components

Monochromators grate is mounted to a motorized axis, allowing it to turn. The Spectrum then moves across a slit, which passes the desired wavelength light.



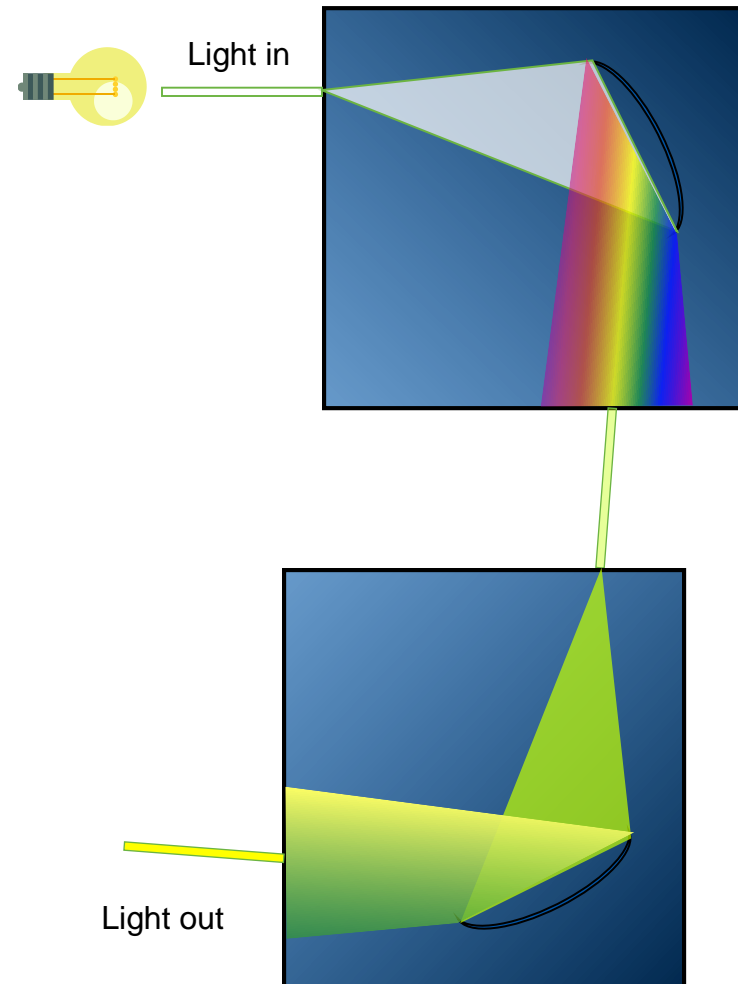
The filtering capacity of a monochromator is limited.

- To address this a multiple of monochromators are sequentially coupled (Dual).

In a Dual Monochromator

- The wavelength is selected once, and after that another time in the sequentially connected second grating.
- The filtered light from the second monochromator is then clean.

Dual Monochromator module



Inventory

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest New Duplica... Delete


Navigation Tree

- Reader Control
- Protocols
- Results
- Inventory
 - Filters
 - Mirrors
 - Bottom mirror
 - AlphaScreen
 - Beta-Lactamase
 - Beta-Lactamase Dual
 - Beta-Lactamase Dual Enh
 - BODIPY TMR
 - BODIPY TMR FP
 - BODIPY TMR FP Dual
 - BODIPY TMR FP Dual Enh
 - BRET2
 - BRET2 Enh
 - CFP/YFP
 - CFP/YFP Dual Enh
 - Cy5
 - Cy5 FP
 - Cy5 FP Dual
 - Cy5 FP Dual Enh
 - Dichroic 385
 - FITC
 - FITC FP
 - FITC FP Dual
 - FITC FP Dual Enh
 - General
 - General Dual
 - General Dual Enh
 - General FP
 - General FP Dual
 - General FP Dual Enh
 - LANCE Dual
 - LANCE/DELFI A
 - LANCE/DELFI A Bias
 - LANCE/DELFI A Dual
 - LANCE/DELFI A Dual / Bias
 - LANCE/DELFI A Dual Enh
 - Luminescence
 - Luminescence Dual
 - Luminescence Dual Enh
 - Texas Red FP

Mirrors

Temperature control not activated. Current 23.46 °C

Barcode	Name	In Instrument	Dual	Description
444	AlphaScreen	Slot 1	No	D640as
402	UV (TRF), Umbelliferone	Slot 2	No	D400
651	General Dual Enh	No	Yes	BS50/BS50
653	Dual Alpha mirror module	No	Yes	640AS/595sp Tb/Eu base dual alpha
605	Eu-Tb-Sm sequential single mirr	No	No	
658	Sm/Eu simultaneous duplex	No	Yes	
401	General	-	No	BS50
403	FITC	-	No	D505
404	Luminescence	-	No	LUM
405	BODIPY TMR	-	No	D555
408	Dichroic 385	-	No	D385
412	LANCE/DELFI A	-	No	D400
418	Beta-Lactamase	-	No	D425
420	Cy5	-	No	D658
431	FITC FP	-	No	D505fp
432	BODIPY TMR FP	-	No	D555fp
433	Umbelliferone FP	-	No	D400fp
434	Texas Red FP	-	No	D595fp
435	General FP	-	No	BS50fp
437	Cy5 FP	-	No	D658fp
445	LANCE/DELFI A Bias	-	No	D400
446	LANCE/DELFI A Dual / Bias	-	Yes	D400/D630
451	General Dual	-	Yes	BS50/BS50
452	LANCE Dual	-	Yes	D400/D630
454	Luminescence Dual	-	Yes	LUM/BS50
459	BRET2	-	Yes	LUM/D475
461	Beta-Lactamase Dual	-	Yes	D425/D490
462	LANCE/DELFI A Dual	-	Yes	D400/D630
481	FITC FP Dual	-	Yes	D505fp/D535
482	BODIPY TMR FP Dual	-	Yes	D555fp/D595
483	Umbelliferone FP Dual	-	Yes	D400fp/BS50
485	Texas Red FP Dual	-	Yes	D595fp/D635
486	General FP Dual	-	Yes	BS50fp/BS50
488	Cy5 FP Dual	-	Yes	D658fp/D688
654	Luminescence Dual Enh	-	Yes	LUM/BS50
659	BRET2 Enh	-	Yes	LUM/D475
661	Beta-Lactamase Dual Enh	-	Yes	D425/D490
662	LANCE/DELFI A Dual Enh	-	Yes	D400/D630
681	FITC FP Dual Enh	-	Yes	D505fp/D535



Press F1 Press F1 for help

Instrument connected EnVision

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest *AlphaScreen Standard ProxiPlate Edit Run Pause Stop Unload Re-stack

Navigation Tree

- Reader Control
- Protocols
 - User protocols
 - Assay examples
 - Wallac protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Reader Control Temperature control not activated. Current 23.46 °C

Idle
Select protocol (valid protocols marked with *) and click 'Run' button to start the assay.

Protocol: AlphaScreen Standard ProxiPlate Label: AlphaScreen

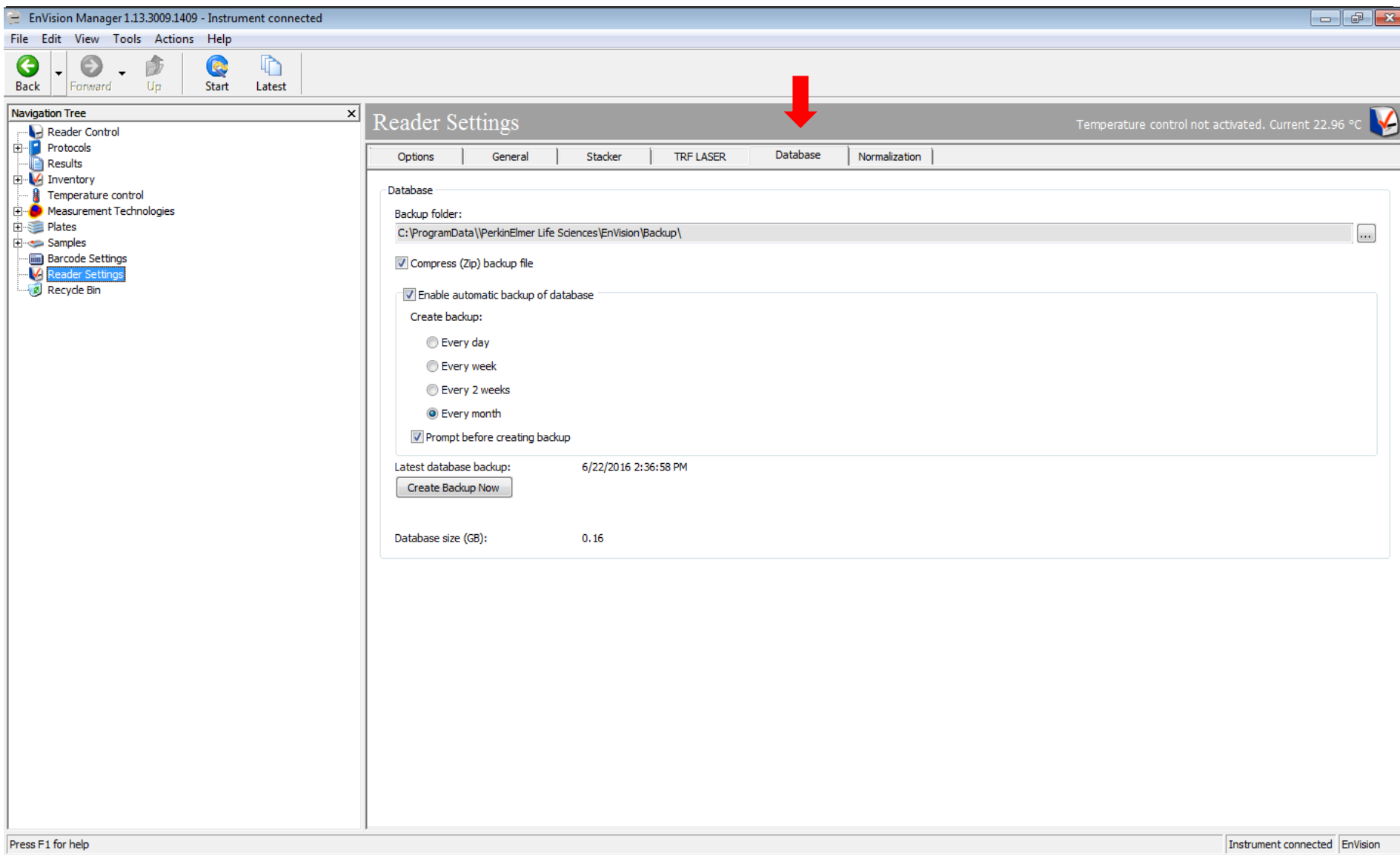
Source: Channel 1 Assay: N/A Plate: N/A, repeat N/A

Counts | Graph | Temperature | Events

Time	Description
4:21:24 PM	Completed exporting assay '1884 - AlphaScreen Standard ProxiPlate'
4:21:24 PM	Completed saving assay '1884 - AlphaScreen Standard ProxiPlate'
4:21:24 PM	Completed processing assay '1884 - AlphaScreen Standard ProxiPlate'
4:21:17 PM	Completed exporting plate 1, repeat 1 of assay '1884 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160718\AlphaScreen Standard ProxiPlate_1884'
4:21:17 PM	Started exporting plate '1, repeat 1 of assay '1884 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160718\AlphaScreen Standard ProxiPlate_1884'
4:21:17 PM	Completed saving of plate 1, repeat 1 of assay '1884 - AlphaScreen Standard ProxiPlate'
4:21:17 PM	Completed processing of plate 1, repeat 1 of assay '1884 - AlphaScreen Standard ProxiPlate'
4:20:03 PM	Started assay '1884 - AlphaScreen Standard ProxiPlate'
4:19:53 PM	Completed exporting assay '1883 - AlphaScreen Standard ProxiPlate'
4:19:53 PM	Completed saving assay '1883 - AlphaScreen Standard ProxiPlate'
4:19:52 PM	Completed processing assay '1883 - AlphaScreen Standard ProxiPlate'
4:19:45 PM	Completed exporting plate 1, repeat 1 of assay '1883 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160718\AlphaScreen Standard ProxiPlate_1883'
4:19:45 PM	Started exporting plate '1, repeat 1 of assay '1883 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160718\AlphaScreen Standard ProxiPlate_1883'
4:19:45 PM	Completed saving of plate 1, repeat 1 of assay '1883 - AlphaScreen Standard ProxiPlate'
4:19:45 PM	Completed processing of plate 1, repeat 1 of assay '1883 - AlphaScreen Standard ProxiPlate'
4:18:32 PM	Started assay '1883 - AlphaScreen Standard ProxiPlate'
11:08:17 AM	Completed exporting assay '1882 - AlphaScreen Standard OptiPlate'
11:08:17 AM	Completed saving assay '1882 - AlphaScreen Standard OptiPlate'
11:08:17 AM	Completed processing assay '1882 - AlphaScreen Standard OptiPlate'
11:08:10 AM	Completed exporting plate 1, repeat 1 of assay '1882 - AlphaScreen Standard OptiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160714\AlphaScreen Standard OptiPlate_1882'
11:08:10 AM	Started exporting plate '1, repeat 1 of assay '1882 - AlphaScreen Standard OptiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160714\AlphaScreen Standard OptiPlate_1882'
11:08:10 AM	Completed saving of plate 1, repeat 1 of assay '1882 - AlphaScreen Standard OptiPlate'
11:08:09 AM	Completed processing of plate 1, repeat 1 of assay '1882 - AlphaScreen Standard OptiPlate'
11:03:46 AM	Started assay '1882 - AlphaScreen Standard OptiPlate'
8:54:40 AM	Completed exporting assay '1881 - AlphaScreen Standard ProxiPlate'
8:54:40 AM	Completed saving assay '1881 - AlphaScreen Standard ProxiPlate'
8:54:40 AM	Completed processing assay '1881 - AlphaScreen Standard ProxiPlate'
8:54:33 AM	Completed exporting plate 1, repeat 1 of assay '1881 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160714\AlphaScreen Standard ProxiPlate_1881'
8:54:33 AM	Started exporting plate '1, repeat 1 of assay '1881 - AlphaScreen Standard ProxiPlate' to file 'C:\ProgramData\PerkinElmer Life Sciences\EnVision\20160714\AlphaScreen Standard ProxiPlate_1881'
8:54:22 AM	Completed saving of plate 1, repeat 1 of assay '1881 - AlphaScreen Standard ProxiPlate'

Press F1 for help Instrument connected EnVision

Reader Settings



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File Edit View Tools Actions Help

Back Forward Up Start Latest

Navigation Tree

- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Reader Settings

Temperature control not activated. Current 22.96 °C

Options | General | Stacker | TRF LASER | Database | Normalization

Database

Backup folder:
C:\ProgramData\PerkinElmer Life Sciences\EnVision\Backup

Compress (Zip) backup file

Enable automatic backup of database

Create backup:

- Every day
- Every week
- Every 2 weeks
- Every month

Prompt before creating backup

Latest database backup: 6/22/2016 2:36:58 PM
[Create Backup Now](#)

Database size (GB): 0.16

Press F1 for help

Instrument connected EnVision

Protocol General Settings

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Run Lock Undo Export Copy Delete

Navigation Tree

- Reader Control
- Protocols
 - User protocols
 - User 1
 - User 2
 - User 3
 - Service
 - Jeanine
 - User 6
 - Daniel
 - User 8
 - Tom N Test
 - User 10
 - Nicholas Lin
 - Copy of Homogeneous TRF
 - Mark G
 - Absorbance**
 - Assay examples
 - Wallac protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Absorbance

Temperature control not activated. Current 23.16 °C

File Print Event

File output
 Open file in Excel after assay (Not installed)

File name:
-<DefaultDataFolder>\<Date>\<ProtocolName>_<AssayID>.csv

Export format:
Plate 2 (with well headers)

Assay information to include

- Basic assay information
- Notifications

Full protocol information
Place at end of output

Plate information to include

- Plate information
- Background information

Place at beginning of plate

Other options

- Show picture
- Each plate to a separate file
- Don't add plate number to the file name

Use system list separator

Plates

- No selectable plates

Press F1 for help Instrument connected EnVision

Plates General Tab

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File Edit View Tools Actions Help

Back Forward Up Start Latest Lock New Duplica... Undo Delete

Navigation Tree

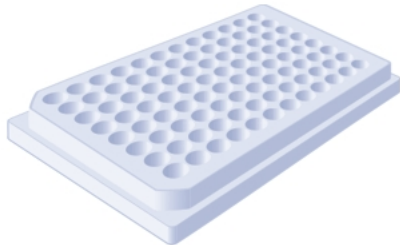
- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
 - 1536 AlphaPlate NEW
 - 1536 CulturPlate NEW
 - 1536 General
 - 1536 Greiner
 - 1536 Greiner Low Base
 - 1536 OptiPlate NEW
 - 1536 OptiPlate OLD
 - 1536 SpectraPlate NEW
 - 24 General
 - 24 VisiPlate
 - 384 Costar
 - 384 General**
 - 384 Image FlashPlate
 - 384 Nunc
 - 384 OptiPlate
 - 384 ProxiPlate
 - 384 ViewPlate
 - 384 Wallac
 - 96 Costar Half Area Plate
 - 96 Costar UV Plate
 - 96 General
 - 96 Nunc DELFIA Strip plate
 - 96 OptiPlate
 - 96 ProxiPlate
 - 96 Thermo Electron CliniPlate
 - 96 Thermo Electron DELFIA Strip plate
 - 96 ViewPlate
 - 96 Wallac IsoPlate
 - Wallac Test Plate
 - <New plate> 1
 - 384 AlphaPlate
 - 384 OptiPlate White LANCE
 - 384 well Corning Low Volume Flat
 - Copy of 96 Nunc DELFIA Strip plate
 - Greiner 384 for BI
 - Service Test Plate_5mm
- Samples

384 General

Temperature control not activated. Current 23.16 °C

General Optimizations

Name	384 General
Number of rows	16
Number of columns	24
Height (mm)	14.35
Well diameter (mm)	3.5
Well volume (µl)	100
Column coordinate of top left corner well (mm)	12.13
Row coordinate of top left corner well (mm)	8.99
Column coordinate of top right corner well (mm)	115.63
Row coordinate of top right corner well (mm)	8.99
Column coordinate of bottom left corner well (mm)	12.13
Row coordinate of bottom left corner well (mm)	76.49
Column coordinate of bottom right corner well (mm)	115.63
Row coordinate of bottom right corner well (mm)	76.49
Changed	6/27/2016 12:24:42 PM (Installation)



Press F1 for help

Instrument connected EnVision

Temperature Control

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest

Navigation Tree

- Reader Control
- Protocols
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- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Temperature control

Temperature control not activated. Current 23.36 °C

Plate heating adjustment

Set measurement chamber temperature to 20 °C

Condensation prevention for sealed plates

Upper heater temperature is 0 °C warmer than lower heater temperature

Set plate heating off after next assay

Alphascreen plate temperature adjustment

Plate temperature offset

Plate temperature is 0 °C warmer than ambient temperature

Press F1 for help

Instrument connected EnVision

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Delete

Navigation Tree

- Reader Control
- Protocols
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- Measurement Technologies
- Plates
- Samples
- Barcode Settings**
- Reader Settings
- Recycle Bin

Barcode Settings

Temperature control not activated. Current 22.77 °C

Barcode reading | Protocol starting

Read barcode from the

- short right side and use it as barcode
- long side that enters instrument first and use it as barcode
- long side that enters instrument last and use it as barcode

Protocol definition by barcodes

- Use barcodes as plate ID only
- Define the protocol using barcode
- Define the plate ID using barcode
- Split barcode
 - First digits define barcode
 - None of digits define plate ID barcode

Plates without ID barcodes

- Replace missing Plate ID barcode with
 - Time stamp
 - Custom text

Press F1 for help

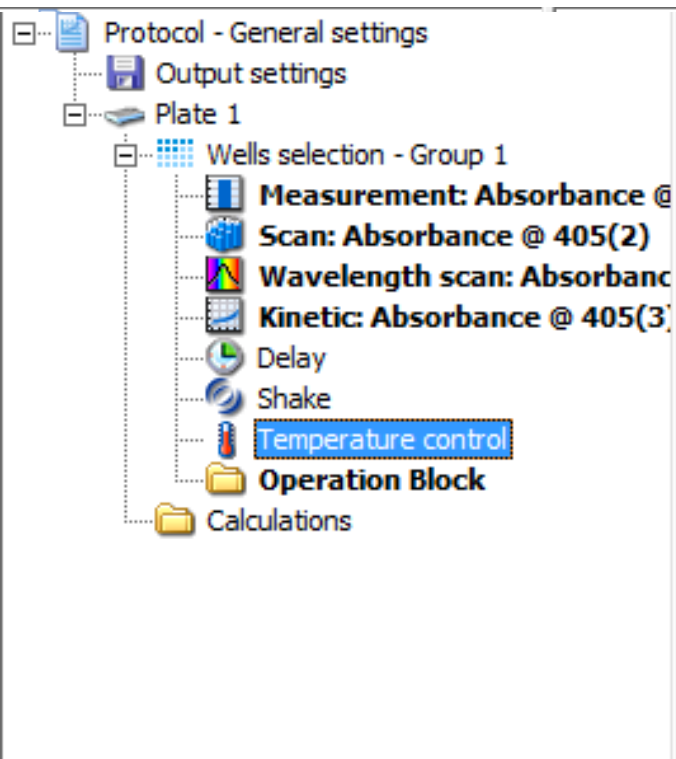
Instrument connected EnVision

Reagent Technologies

	Absorbance	Fluorescence	Luminescence	FP	DELTA	LANCE	ALPHASCREEN
<u>LIGHT SOURCE</u>	Ex Xenon Flash + Filter/Mono	Ex Xenon Flash + Filter/mono	Reagent is light source	Ex Xenon Flash + Filter	Ex Xenon Flash + Filter or TRF Laser	Ex Xenon Flash + Filter or TRF Laser	Alpha Laser
<u>MIRROR REQUIRED</u>		Dichroic Mirror or Beamsplitter	Std Lum requires a Lumi mirror block	Dichroic Mirror or Beamsplitter w/polarizer	Dichroic Mirror	Dichroic Mirror	Std Alpha uses Alpha mirror block
<u>Emission Wavelength Selection</u>	Reagent is Em filter	Em Filter/Mono	-Std Lum uses single or dual Filter -US Lum uses Aperture	Em Filters with S and P polarizers	Em Filter(s)	Em Filter(s)	Std Alpha uses single or dual Em Filters HTS uses Aperture
<u>DETECTION DEVICE(s)</u>	Read on Photodiode	Read on Single or dual PMT with filters Read on Dedicated PMT with Mono	-Std Lum uses single or dual PMT -US Lum uses Dedicated PMT	Single or dual PMTs	Single or dual PMTs	Single or dual PMTs	Std Alpha uses single or dual PMT HTS Alpha uses Aperture and dedicated PMT

So many reagents...with a variety of conditions

DNA Luminescence
ATPlite ELISA TR-FRET
Kinase Surefire-Ultra_{FP} Protein-Protein
AlphaLISA DELFIA
LANCE BrightLite
TRF AlphaScreen
LANCE-Ultra AlphaPLEX
Absorbance Surefire NeoLite
Fluorescence SteadyLite



Protocol - General settings

- Output settings
- Plate 1
 - Wells selection - Group 1
 - Measurement: Absorbance @
 - Scan: Absorbance @ 405(2)
 - Wavelength scan: Absorbanc
 - Kinetic: Absorbance @ 405(3)
 - Delay
 - Shake
 - Temperature control
 - Operation Block
 - Calculations

Temperature control

Measurement chamber temperature (°C)	20	▼
Fast start	<input checked="" type="checkbox"/>	
First assay/plate repeat affected	1	▼
Last assay/plate repeat affected	1	▼

Repeats

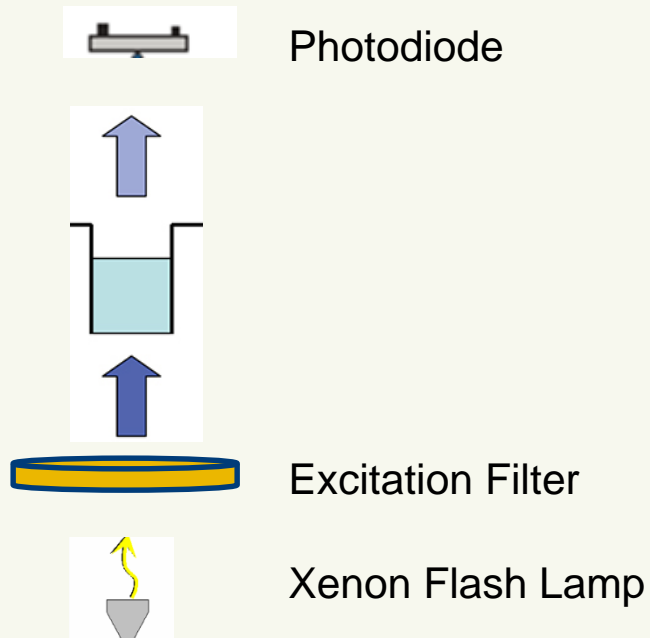
Number of assay repeats	1	▼
<input type="checkbox"/> Start assay repeat each	0	s ▼
Number of plate repeats	1	▼
<input type="checkbox"/> Start plate repeat each	0	s ▼

Absorbance Assays



HUMAN HEALTH | ENVIRONMENTAL HEALTH

- Inexpensive
- Easy to build
- Large # of commercial kits
- Wash Assay
- Limited Window





Absorbance Protocol

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File Edit View Tools Actions Help

Back Forward Up Start Latest Lock New Duplica... Undo Delete

Navigation Tree

- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
 - Absorbance
 - * Absorbance @ 405
 - * Absorbance Monochromator 405
 - * Absorbance Monochromator 405 (180)
 - * Absorbance Monochromator 595
 - Wallac ABS 340 Test Plate
 - * Wallac ABS 405 Test Plate
 - Wallac ABS 450 Test Plate
 - Wallac ABS 492 Test Plate
 - * Wallac ABS Mono 405 Test Plate
 - * Wallac ABS Mono 405 Test Plate (180)
 - Absorbance @ 450 BFP
 - * Absorbance Monochromator 450
 - * Copy of Absorbance @ 405
 - * Service Wallac ABS 405 Test Plate
 - AlphaScreen
 - Fluorescence Intensity
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

* Copy of Absorbance @ 405

Temperature control not activated. Current 23.36 °C

General Optimizations

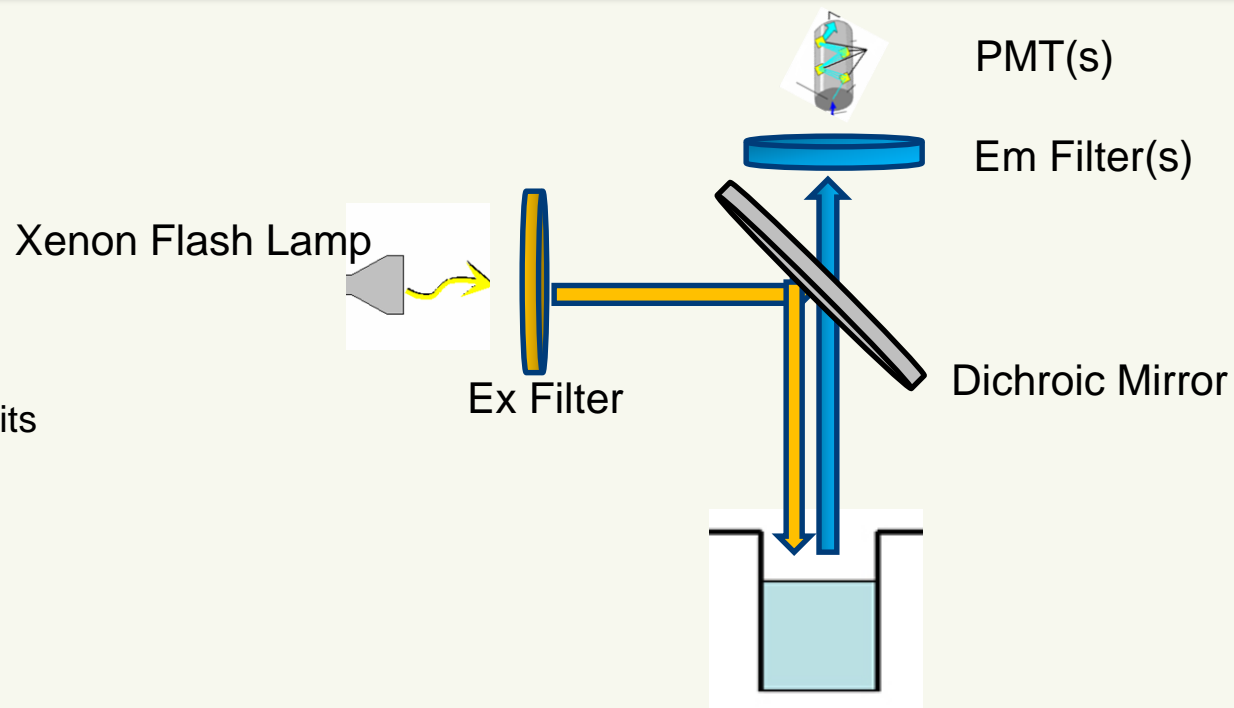
Name	Copy of Absorbance @ 405
Monochromators	<input type="checkbox"/> Use excitation monochromator
Wavelength	405
Excitation filter	Photometric 405 - Ex Slot 3
Measurement height (mm)	6.5
Excitation light (%)	100
Number of flashes	10
Number of flashes per A/D conversion	1
Reference signal	N/A
Reference AD gain	N/A
Reference Excitation light (%)	N/A
Changed	3/9/2015 11:35:30 AM (EnVision)

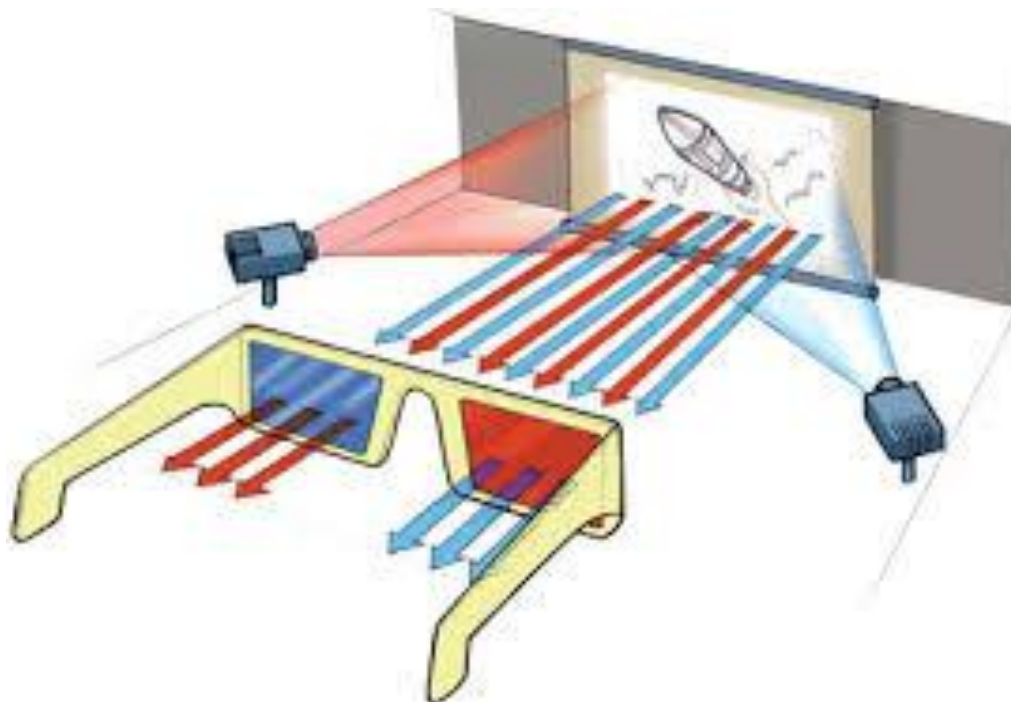
Fluorescence Assays



HUMAN HEALTH | ENVIRONMENTAL HEALTH

- Inexpensive
- Easy to Build
- Large # of Commercial Kits
- Wash and Homogeneous Assay
- Limited Window
- High Background
- Compound Interference





Fluorescence Protocol

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Lock New Duplica... Undo Delete

Navigation Tree

- Reader Control
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- Measurement Technologies
 - Absorbance
 - AlphaScreen
 - Fluorescence Intensity
 - Fluorescein
 - * Fluorescein High Precision Monochromator
 - * Fluorescein Monochromator
 - * Fluorescein Precision Monochromator
 - Fura-2
 - Wallac FI FITC Bottom Test Plate
 - Wallac FI FITC Test Plate
 - * Wallac FI Mono FITC Test Plate
 - Copy of Fluorescein**
 - * Service Wallac FI Mono FITC Test Plate
 - ULight
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of Fluorescein

Temperature control not activated. Current 22.96 °C

General Optimizations

Name: Copy of Fluorescein

Excitation: Top Bottom

Monochromators: Use monochromators Exc wavelength (nm) 475 Ems wavelength (nm) 520

Top mirror: FITC

Bottom mirror: (None)

Excitation filter: FITC 485

2nd excitation filter: (None)

Emission filter: FITC 535 - Em Slot 5

2nd emission filter: (None)

Measurement height (mm): 6.5

High concentration mode: Use high concentration mode

Excitation light (%): 25

Detector gain: 150

2nd detector gain: 0

Number of flashes: 5

Number of flashes per A/D conversion: 1

Reference signal: 323790

Reference AD gain: 1

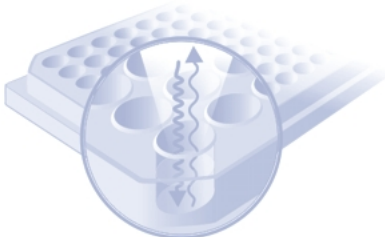
Reference Excitation light (%): 100

2nd reference signal: N/A

2nd reference AD gain: N/A

2nd reference excitation light (%): N/A

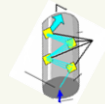
Changed: 3/22/2016 6:23:00 PM (EnVision)



Luminescence Assays



HUMAN HEALTH | ENVIRONMENTAL HEALTH



PMT(s)

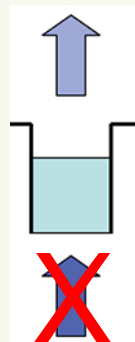


Emission Filter(s)



Mirror Block

- Low background
- Variety of kits and reagents available
- Good assay window
- Can be inject and read
- Signal Diminishes over time



LUMINESCENCE ASSAY SYSTEMS AND INSTRUMENTS

	AequoScreen AequoZen PhotoScreen	brite lite plus	steady lite plus	neo lite	ATP lite 1step	ATP lite
Applications	<ul style="list-style-type: none"> • Calcium Flux • GPCR • Ion Channels 	<ul style="list-style-type: none"> • Reporter Gene Assay • GPCR 	<ul style="list-style-type: none"> • Reporter Gene Assay • GPCR 	<ul style="list-style-type: none"> • Reporter Gene Assay • GPCR 	<ul style="list-style-type: none"> • Cytotoxicity • Cell Proliferation Assay 	<ul style="list-style-type: none"> • Cytotoxicity • Cell Proliferation Assay
Half-life (hours)	Flash	0.5	4 to 5	2.5	0.5	5
Sensitivity	High	Very High	Moderate	High	As few as 5 cells/well	As few as 5 cells/well
Plate Format (wells)	96 384 1536	96 384 1536	96 384 1536	96 384 1536	96 384 1536	96 384 1536
Instrumentation	— MicroBeta ² LumiJET EnVision VICTOR X VICTOR X Light —	TopCount MicroBeta ² EnSpire EnVision VICTOR X VICTOR X Light ViewLux	TopCount MicroBeta ² EnSpire EnVision VICTOR X VICTOR X Light ViewLux	TopCount MicroBeta ² EnSpire EnVision VICTOR X VICTOR X Light ViewLux	TopCount MicroBeta ² EnSpire EnVision VICTOR X VICTOR X Light ViewLux	TopCount MicroBeta ² EnSpire EnVision VICTOR X VICTOR X Light ViewLux

Standard Luminescence

EnVision Manager 1.13.3009.1409 - Instrument connected

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 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - LUM (cps)
 - Wallac LUM Test Plate
 - Copy 2 of LUM (cps)
 - Copy of LUM (cps)**
 - Training LUM (cps)
 - Training of LUM (cps)
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of LUM (cps) Temperature control not activated. Current 22.77 °C

General Optimizations

Name: Copy of LUM (cps)

Mirror: Luminescence

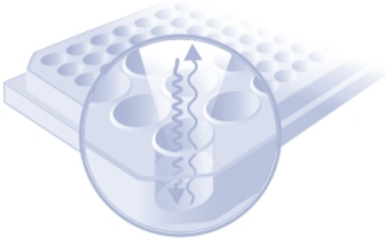
Emission filter: Luminescence 700 - Em Slot 4

2nd emission filter: [None]

Measurement height (mm): 6.5

Measurement time (s): 1

Changed: 1/14/2016 11:40:23 AM (EnVision)

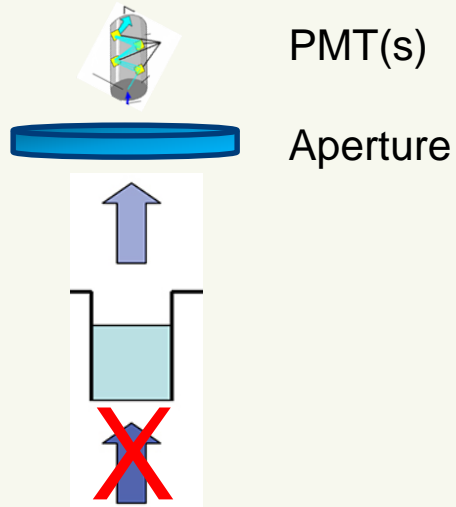


Press F1 for help Instrument connected EnVision

Ultra Sensitive Luminescence Assays



HUMAN HEALTH | ENVIRONMENTAL HEALTH



Ultra Sensitive Luminescence

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

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 - Fluorescence Intensity
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - US LUM 1536 (cps)
 - US LUM 384 (cps)
 - US LUM 96 (cps)
 - Wallac US LUM Test Plate
 - BMS US LUM 96 (cps)
 - Copy of US LUM 384 (cps)**
 - Service US LUM 384 (cps)
 - Training US LUM 384 (cps)
 - Luminescence
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
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- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of US LUM 384 (cps)

Temperature control not activated. Current 22.77 °C

General Optimizations

Name: Copy of US LUM 384 (cps)

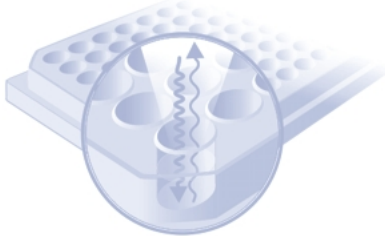
Aperture: 384 Plate US Luminescence aperture

Distance between plate and detector (mm): 0

Measurement time (s): 0.5

Glow (CT2) correction factor (%): 0

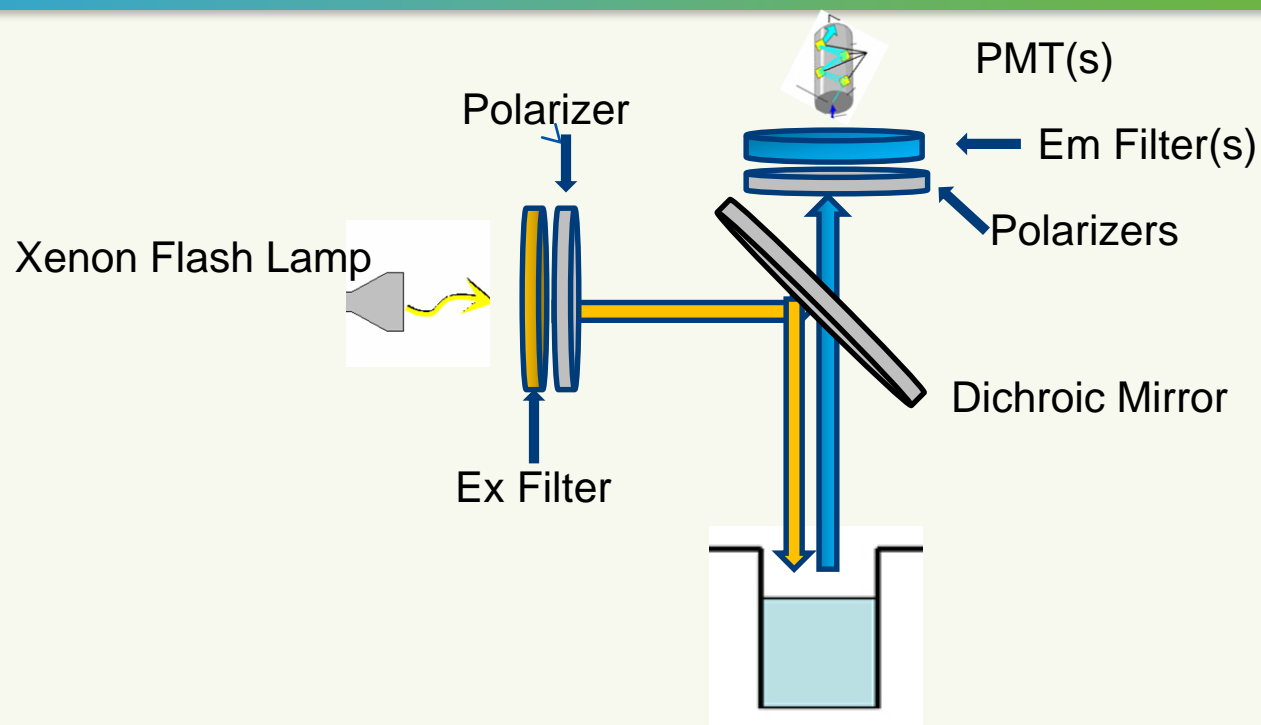
Changed: 7/10/2015 10:59:54 AM (EnVision)



Press F1 for help

Instrument connected EnVision

Fluorescence Polarization



- Inexpensive
- Easy to Build
- Homogeneous Assay
- Single Binding Assay
- Sensitive to Detergents
- Limited Window
- High Background
- Compound Interference
- Difficult to optimize assay conditions



Without Polarizer



With Polarizer

Fluorescence Polarization

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Lock New Duplica... Undo Delete

Navigation Tree

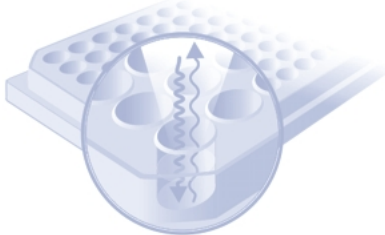
- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
 - Absorbance
 - AlphaScreen
 - Fluorescence Intensity
 - Fluorescence Polarization
 - FP Fluorescein Dual
 - FP Fluorescein Dual 681
 - Wallac FP FITC Test Plate HTS
 - Wallac FP FITC Test Plate HTS 681
 - Copy of Copy of FP Fluorescein single**
 - Copy of FP Fluorescein single
 - Ultra Sensitive Luminescence
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 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of Copy of FP Fluorescein single

Temperature control not activated. Current 22.86 °C

General Optimizations

Name	Copy of Copy of FP Fluorescein single
Mirror	FITC FP Dual Enh
Excitation filter	FITC FP 480
Emission filter	FITC FP P-pol 535
2nd emission filter	FITC FP S-pol 535
Measurement height (mm)	6.5
High concentration mode	<input type="checkbox"/> Use high concentration mode
Excitation light (%)	100
G - factor	1
Detector gain	500
2nd detector gain	700
Number of flashes	50
Number of flashes per A/D conversion	1
Reference signal	N/A
Reference AD gain	N/A
Reference Excitation light (%)	N/A
Changed	6/22/2016 3:44:00 PM (EnVision)

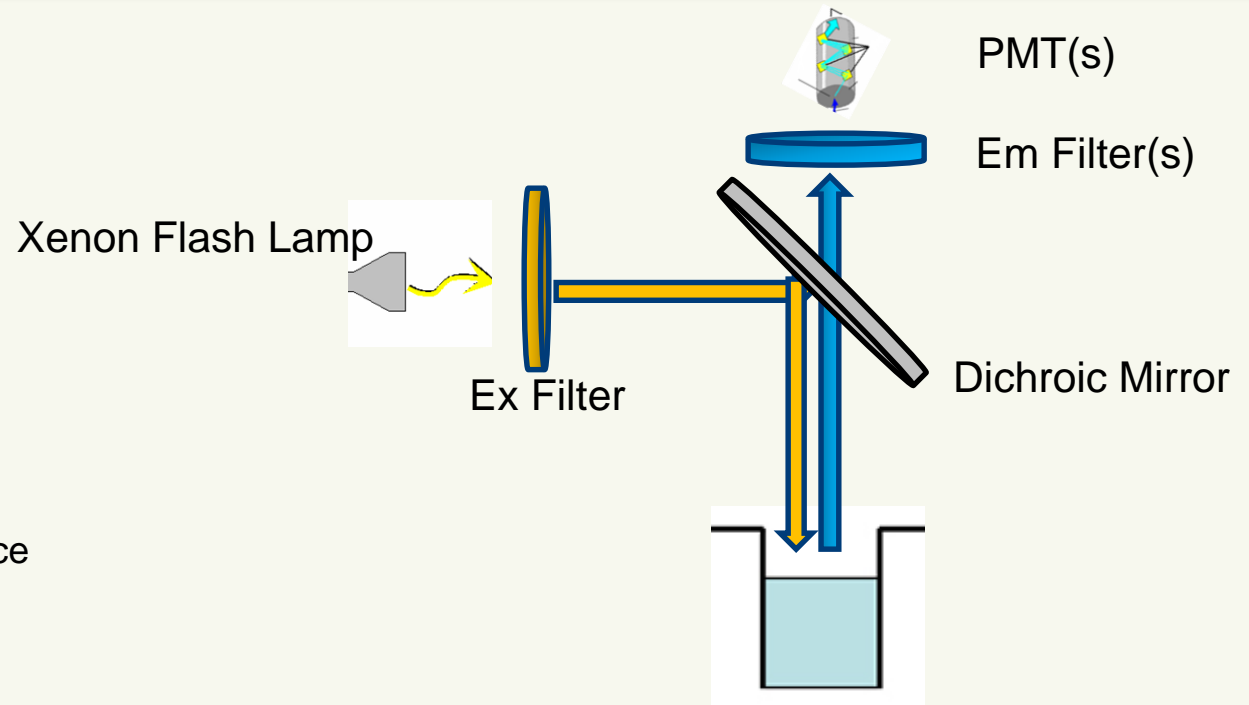


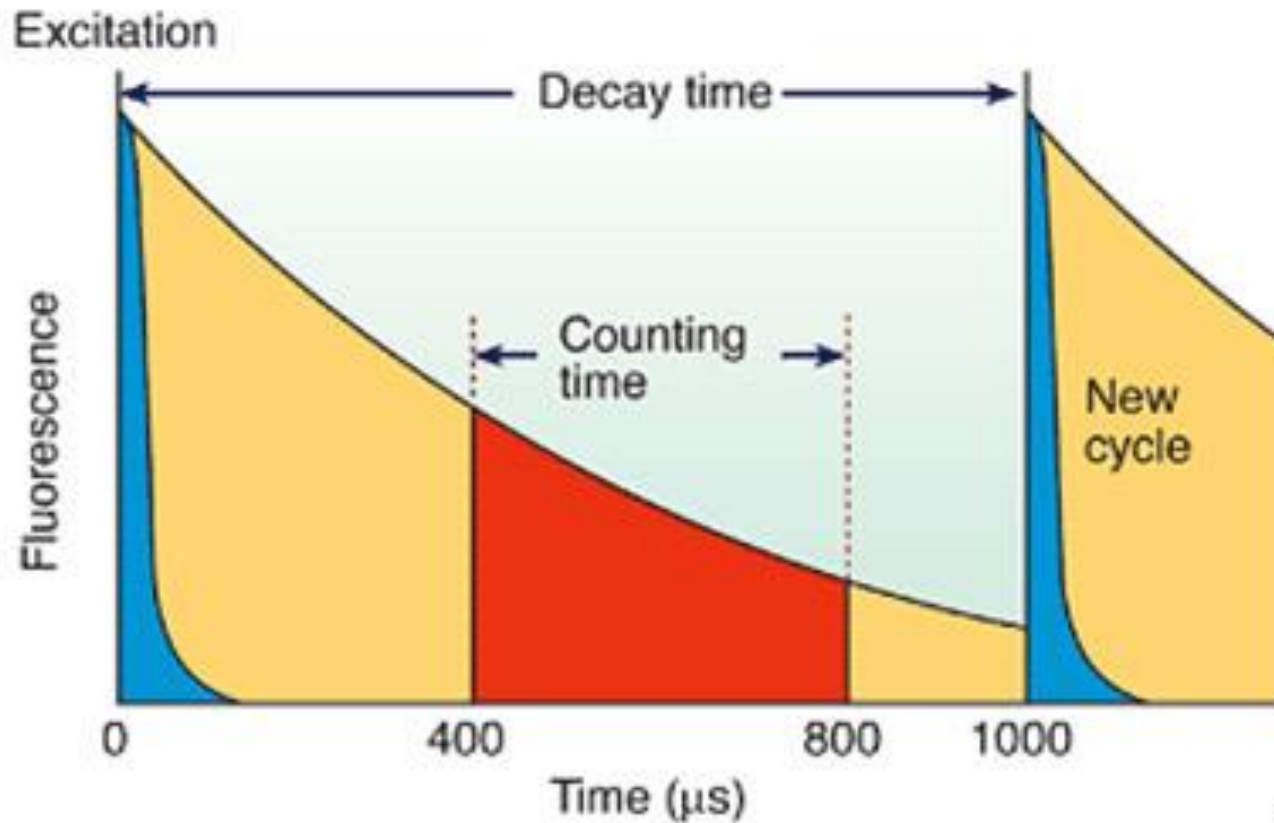
DELFLIA (TRF)



HUMAN HEALTH | ENVIRONMENTAL HEALTH

- Wide Dynamic Range
- Easy to Build
- Bright signal
- Low background
- Low Background
- No Compound Interference
- Wash Assay





DELFLIA Flash Lamp

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Lock New Duplica... Undo Delete

Navigation Tree

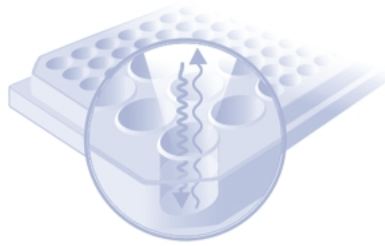
- Reader Control
- Protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
 - Absorbance
 - AlphaScreen
 - Fluorescence Intensity
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFLIA - Time-resolved Fluorescence
 - * Europium
 - Europium Updated
 - Wallac TRF Dy Test Plate
 - Wallac TRF Eu Laser 445 Test Plate
 - Wallac TRF Eu Laser 446 Test Plate
 - Wallac TRF Eu Test Plate
 - Wallac TRF Eu2 Laser 445 Test Plate
 - Wallac TRF Eu2 Laser 446 Test Plate
 - Wallac TRF Sm Test Plate
 - Wallac TRF Tb Test Plate
 - <New DELFLIA - Time-resolved fluorescence label> 1
 - * GW_Europium
 - GW_Sm
 - Lance LASER
 - Service Europium
 - SNG Europium Updated
 - TMN Eu Top Read Test
 - * Copy of Europium
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

* Copy of Europium

Temperature control not activated. Current 22.86 °C

General Optimizations

Name	Copy of Europium
Excitation	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
2nd emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Light source	Light source 1 - Flash lamp
Top mirror	UV (TRF), Umbelliferone - Slot 2
Bottom mirror	(None)
Excitation filter	UV (TRF) 340 - Ex Slot 4
Emission filter	Europium 615 - Em Slot 6
2nd emission filter	(None)
Measurement height (mm)	6.5
Excitation light (%)	100
Delay (µs)	400
Window time (µs)	400
Number of sequential windows	1
Time between flashes (µs)	2000
Number of flashes	100
Reference signal	333297
Reference AD gain	2
Reference Excitation light (%)	100
Changed	7/18/2016 4:47:42 PM (EnVision)



EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

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Navigation Tree

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 - AlphaScreen
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 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFLIA - Time-resolved Fluorescence
 - * Europium
 - Europium Updated
 - Wallac TRF Dy Test Plate
 - Wallac TRF Eu Laser 445 Test Plate
 - Wallac TRF Eu Laser 446 Test Plate
 - Wallac TRF Eu Test Plate
 - Wallac TRF Eu2 Laser 445 Test Plate
 - Wallac TRF Eu2 Laser 446 Test Plate
 - Wallac TRF Sm Test Plate
 - Wallac TRF Tb Test Plate
 - <New DELFLIA - Time-resolved fluorescence label> 1
 - * GW_Europium
 - GW_Sm
 - Lance LASER
 - Service Europium
 - SNG Europium Updated
 - TMN Eu Top Read Test
 - * Copy of Europium
 - Copy of Wallac TRF Eu Laser 445 Test Plate
- LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of Wallac TRF Eu Laser 445 Test Plate

Temperature control not activated. Current 22.96 °C

General

Name	Copy of Wallac TRF Eu Laser 445 Test Plate
Excitation	<input type="radio"/> Top <input type="radio"/> Bottom
Emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
2nd emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Light source	Light source 2 - Laser
Top mirror	LANCE/DELFLIA Bias
Bottom mirror	(None)
Emission filter	Europium 615 - Em Slot 6
2nd emission filter	(None)
Measurement height (mm)	6.5
Excitation light (%)	100
Delay (µs)	400
Window time (µs)	400
Number of sequential windows	1
Time between flashes (µs)	16600
Number of flashes	100
Reference signal	N/A
Reference AD gain	N/A
Reference Excitation light (%)	N/A
Changed	7/18/2016 4:48:30 PM (EnVision)

Press F1 for help Instrument connected | EnVision

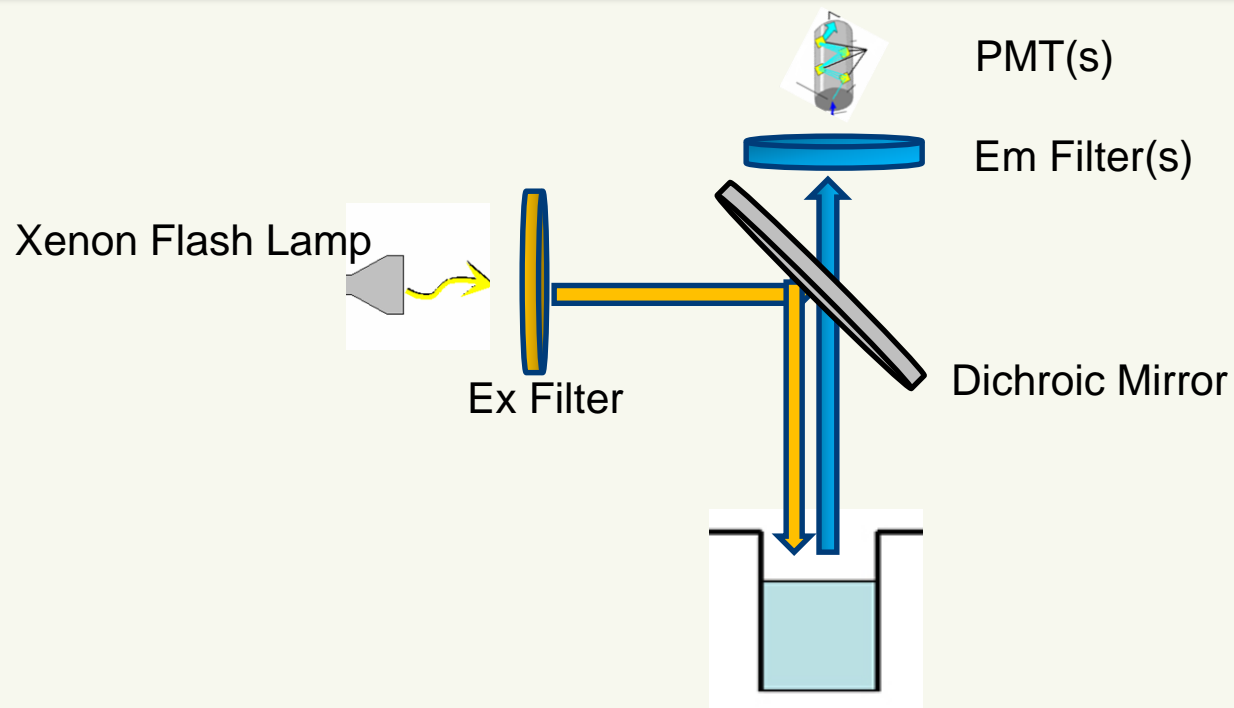
43

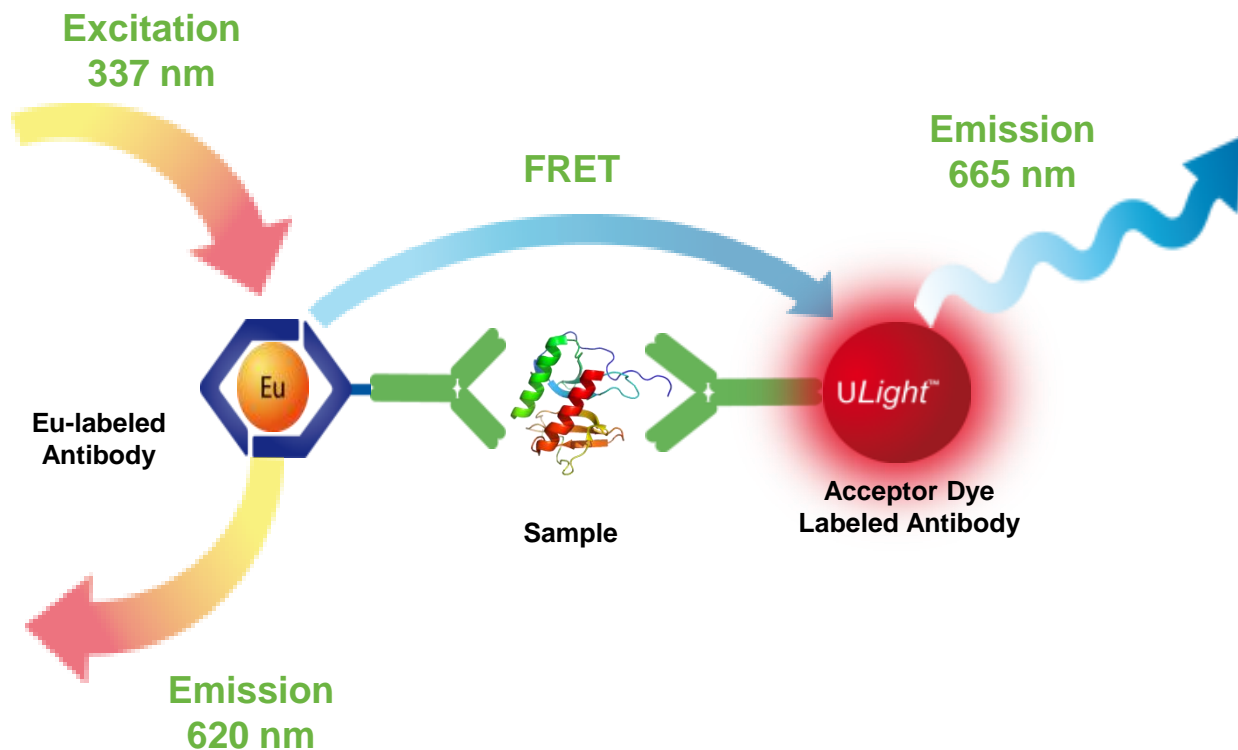
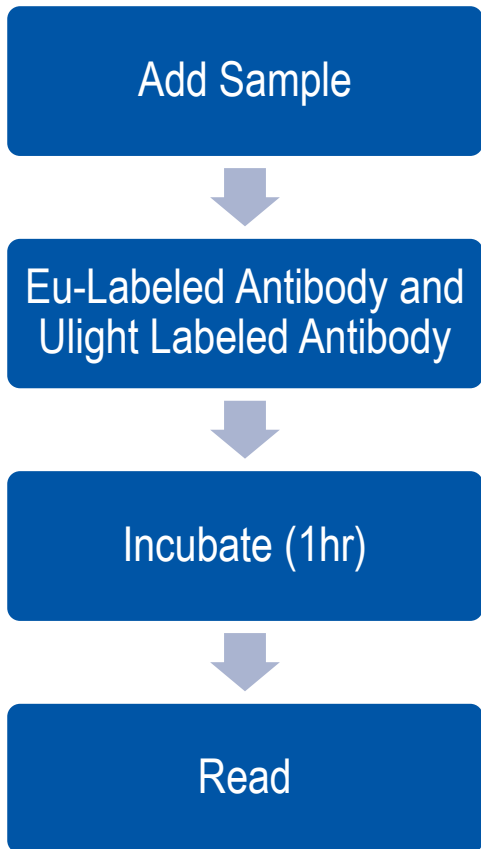
LANCE (TR-FRET)



HUMAN HEALTH | ENVIRONMENTAL HEALTH

- Wide Dynamic Range
- Easy to Build
- Large Variety of Kits
- Ratiometric Signal
- Low Background
- Mix and Read Assay
- Can't tolerate large complexes





LANCE/ TR-FRET Flash Lamp

EnVision Manager 1.13.3009.1409 - Instrument connected

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Navigation Tree

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 - Fluorescence Intensity
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
 - Homogeneous TRF
 - Homogeneous TRF Laser
 - Homogeneous TRF Laser Precision
 - LANCE Dual Laser
 - LANCE Dual Laser 50/200
 - LANCE Eu/APC Dual
 - LANCE Eu/APC Dual 662
 - LANCE Eu/APC Dual Updated
 - TruPoint 615
 - Wallac LANCE Test Plate HTS
 - Wallac LANCE Test Plate HTS 662
 - <New LANCE - Time-resolved fluorescence label> 1
 - <New LANCE - Time-resolved fluorescence label> 2
 - Copy of Homogeneous TRF
 - Copy of LANCE Dual Laser
 - Service lance TRF Laser_Hopkinton
 - SNG LANCE Eu/APC Dual Updated
 - Copy of LANCE Eu/APC Dual**

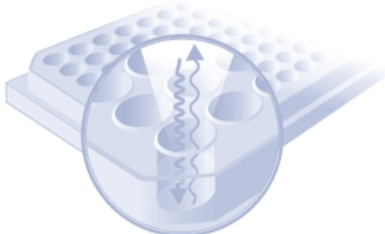
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of LANCE Eu/APC Dual

Temperature control not activated. Current 22.57 °C

General Optimizations

Name	Copy of LANCE Eu/APC Dual
Excitation	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
2nd emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Light source	Light source 1 - Flash lamp
Top mirror	LANCE Dual
Bottom mirror	[None]
Excitation filter	UV2 (TRF) 320 - Ex Slot 5
Emission filter	APC 665 - Em Slot 8
2nd emission filter	Europium 615 - Em Slot 6
Measurement height (mm)	6.5
Excitation light (%)	100
Delay (µs)	60
Window time (µs)	100
Number of sequential windows	1
Time between flashes (µs)	2000
Number of flashes	100
Number of flashes for 2nd detector	20
Reference signal	N/A
Reference AD gain	N/A
Reference Excitation light (%)	N/A
Changed	7/18/2016 4:50:18 PM (EnVision)



Press F1 for help

Instrument connected EnVision

LANCE/ TR-FRET TRF Laser

EnVision Manager 1.13.3009.1409 - Instrument connected

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Navigation Tree

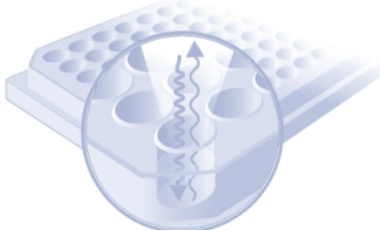
- Reader Control
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 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELPIA - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
 - Homogeneous TRF
 - Homogeneous TRF Laser
 - Homogeneous TRF Laser Precision
 - LANCE Dual Laser
 - LANCE Dual Laser 50/200
 - LANCE Eu/APC Dual
 - LANCE Eu/APC Dual 662
 - LANCE Eu/APC Dual Updated
 - TruPoint 615
 - Wallac LANCE Test Plate HTS
 - Wallac LANCE Test Plate HTS 662
 - <New LANCE - Time-resolved fluorescence label> 1
 - <New LANCE - Time-resolved fluorescence label> 2
 - Copy of Homogeneous TRF
 - Copy of LANCE Dual Laser**
 - Service lance TRF Laser_Hopkinton
 - SNG LANCE Eu/APC Dual Updated
 - Copy of LANCE Eu/APC Dual
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Copy of LANCE Dual Laser

Temperature control not activated. Current 22.96 °C

General Optimizations

Name	Copy of LANCE Dual Laser
Excitation	<input type="radio"/> Top <input type="radio"/> Bottom
Emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
2nd emission	<input checked="" type="radio"/> Top <input type="radio"/> Bottom
Light source	Light source 2 - Laser
Top mirror	LANCE/DELPIA Dual / Bias
Bottom mirror	(None)
Emission filter	APC 665 - Em Slot 8
2nd emission filter	Europium 615 - Em Slot 6
Measurement height (mm)	6.5
Delay (µs)	20
Window time (µs)	200
Number of sequential windows	1
Time between flashes (µs)	16600
Number of flashes	20
Number of flashes for 2nd detector	5
Reference signal	283766
Reference AD gain	2
Changed	7/7/2015 2:29:24 PM (EnVision)



Press F1 for help

Instrument connected EnVision

Applying a Ratio Calculation to TR-FRET assays

EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start Latest Run Lock Undo **Calc 28** Delete

Navigation Tree

- Alpha duplex simultaneous
 - * AlphaScreen Standard ProxiPlate
 - Results
 - * AlphaScreen Standard OptiPlate
 - Results
 - * AlphaScreen Standard AlphaPlate
 - Results
 - LANCE Dual TRF Laser
 - Copy of LUM Single
 - US Lum Steadylite plus BMS
 - Eu-Tb-Sm sequential triplex
 - Triplex- Tb/Eu then Sm
 - Tb/Eu
 - Sm/Eu simultaneous
 - * Alpha 1536w optiplate
 - FITC bead QC
 - * Sequential Read Eu then Tb
 - * Tb at 545
 - Sm at 645
 - Dysprosium
 - * Wide alpha filter
 - * AS fast read
 - * Sequential Read Tb then Eu
 - Eu/Tb
 - TS lance ultra camp
 - Tb/Eu HTS mode
 - Training
 - User 2
 - User 3
 - Copy of Alpha duplex simultaneous
 - * AlphaScreen Standard Opti-384
 - Service
 - Jeanine
 - User 6
 - Daniel
 - User 8
 - Tom N Test
 - User 10
 - * Tartrazine
 - Samarium test
 - * Copy of AlphaScreen 384 OptiPlate
 - Copy of LANCE Test
 - * GW 96 AlphaScreen
 - * Copy of AlphaScreen 384 ProxiPlate

Copy of LANCE Test

Temperature control not activated. Current 23.26 °C

Protocol - General settings

Output settings

Plate 1

Wells selection - Group 1

Measurement: SNg LANCE Eu/APC

Calculations

1. General

X / Y Z

X Y Z

(X Y) Z

X (Y Z)

X

SNg LANCE Eu/APC Dual Updated(1) - Channel 1 [665]

1

Y

SNg LANCE Eu/APC Dual Updated(1) - Channel 2 [615]

1

Z

SNg LANCE Eu/APC Dual Updated(1) - Channel 1 [665]

10000

Press F1 for help

Instrument connected EnVision

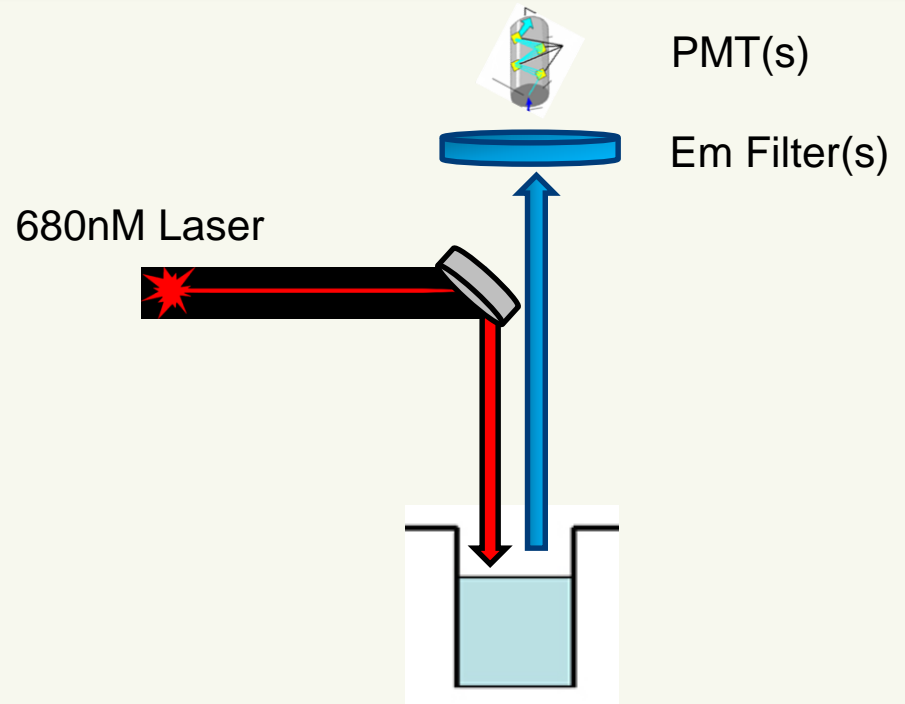
AlphaScreen

(AlphaLISA, AlphaPLEX, Surefire)



HUMAN HEALTH | ENVIRONMENTAL HEALTH

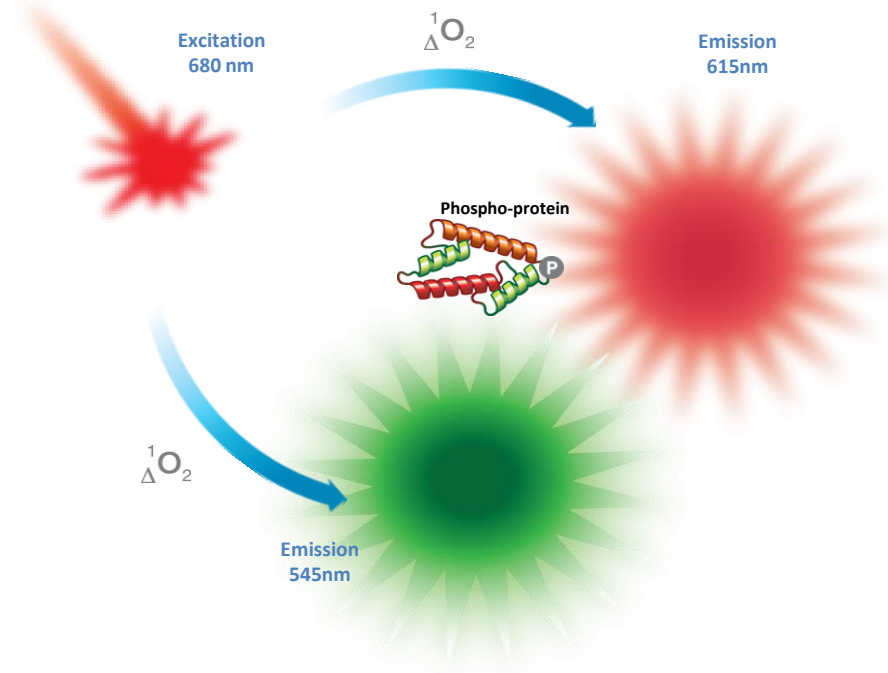
- Wide Dynamic Range
- Easy to Build
- Can be Multiplexed
- Low Background
- Can Handle Large Complexes
- Works with Low Affinity Binders
- Mix and Read Assay
- Cant work with viscous material



Alpha SureFire Ultra Multiplex

▶ Alpha SureFire Ultra Multiplex, dual-targets kits:

- 👉 Phospho-ERK (Eu) + total-ERK (Tb): MPSU-PTERK-K500/10K/50K/HV
- 👉 Phospho-AKT1/2/3 (Eu) + total-AKT1 (Tb): MPSU-PTAKT-K500/10K/50K/HV



EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

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 - AlphaScreen
 - * AlphaScreen
 - * AlphaScreen AlphaPlate
 - * AlphaScreen OptiPlate
 - * AS faster excitation
 - * **Copy of AlphaScreen**
 - Copy of AlphaScreen- Tb Eu Simultaneous
 - Copy of Simultaneous Tb/Eu read (Tb first) 250/120
 - Copy of Tb/Eu simultaneous
 - Dysp test for contamination
 - * Eu std alpha mirror
 - Simultaneous Tb/Eu read (Eu first)
 - Simultaneous Tb/Eu read (Tb first)
 - Simultaneous Tb/Eu read (Tb first) 200/100
 - Simultaneous Tb/Eu read (Tb first) 200/150
 - Simultaneous Tb/Eu read (Tb first) 200/50
 - Simultaneous Tb/Eu read (Tb first) 300/100
 - Simultaneous Tb/Eu read (Tb first) 300/150
 - Simultaneous Tb/Eu read (Tb first) 300/200
 - Simultaneous Tb/Eu read (Tb first) 400/200
 - Sm in Triplex sequential
 - Sm only
 - Sm/Eu simultaneous
 - * Tb std alpha mirror
 - Fluorescence Intensity
 - Fluorescence Polarization
 - Ultra Sensitive Luminescence
 - Luminescence
 - DELFI A - Time-resolved Fluorescence
 - LANCE - Time-resolved Fluorescence
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

*** Copy of AlphaScreen** Temperature control not activated. Current 23.46 °C

General | Optimizations

Name: Copy of AlphaScreen

Mirror: AlphaScreen - Slot 1

Emission filter: AlphaScreen emission 570 - Em Slot 2

2nd emission filter: [None]

Total measurement time (ms): 550

Excitation time (ms): 180 33 %

After glow (CT1) correction factor (%)

Time (ms)	0	0	0	0	0	0	0	0
CT (%)	0	0	0	0	0	0	0	0

Glow (CT2) correction factor (%): 0

Bleach (CT3) correction factor (%)

1 Bleach	2 Bleaches	3 Bleaches
0	0	0

Reference signal: 285617

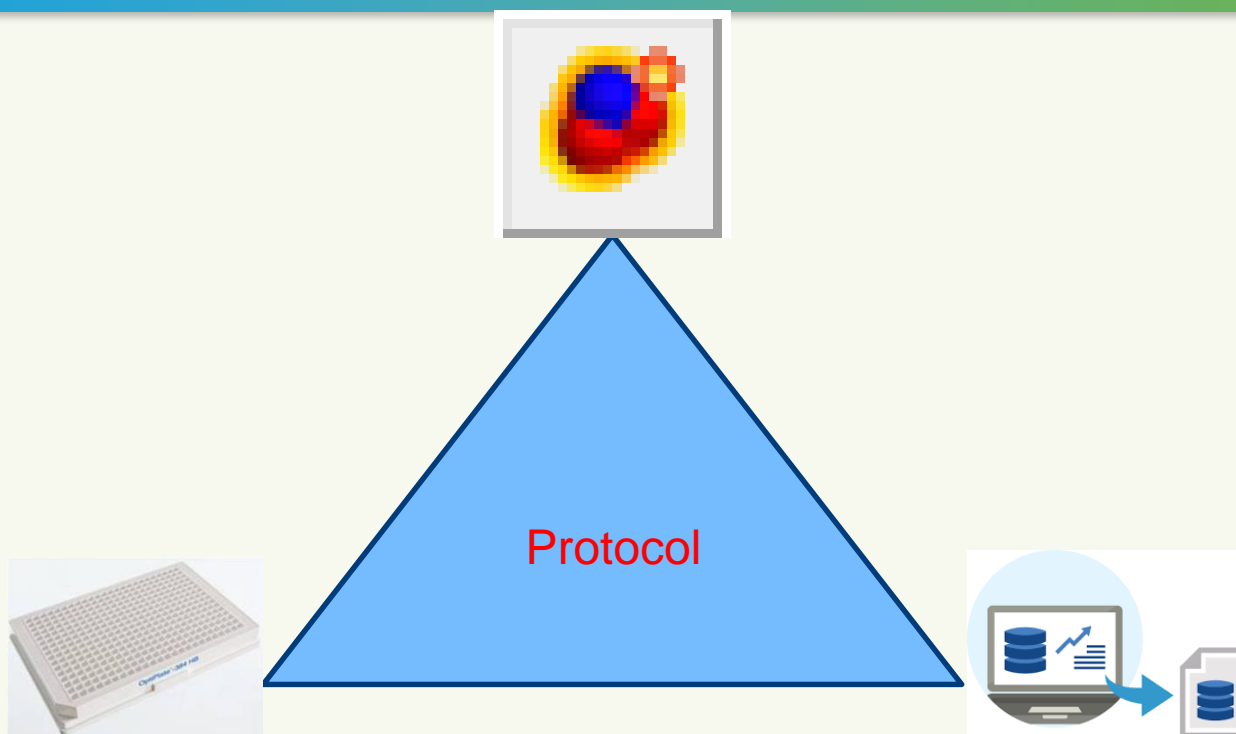
Reference AD gain: 2

Changed: 9/23/2015 1:59:58 PM (EnVision)

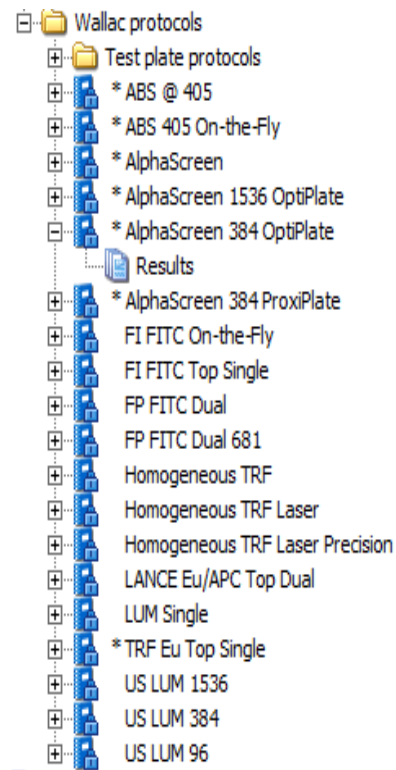
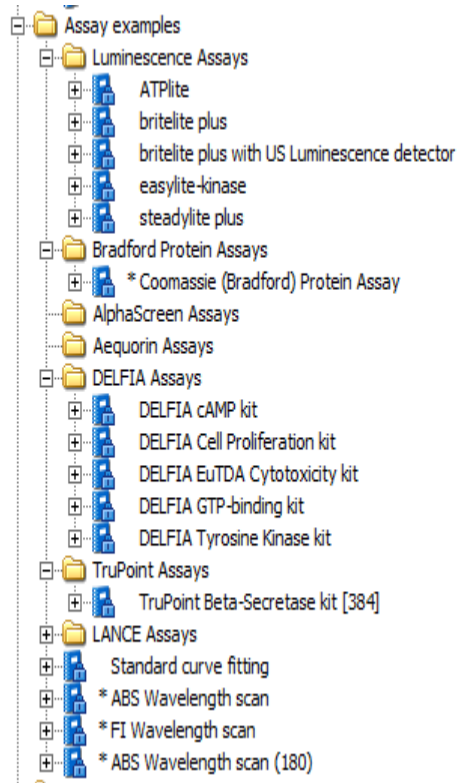
Creating your Protocol



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Using a Factory Set Program



Creating a Protocol


EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Training


Temperature control not activated. Current 23.46 °C

- Protocol - General settings
- Output settings
- Plate 1
 - Wells selection - Group 1
 - Measurement**
 - Calculations

 **Invalid operation**
Check parameters

Measurement

Label (valid labels marked with *):

Optimizations 

Repeats

Number of assay repeats

Start assay repeat each

 s


Number of plate repeats

Start plate repeat each

 s

Statistics

Created by	EnVision
Created	7/18/2016 5:03:25 PM
Changed by	EnVision
Changed	7/18/2016 5:03:57 PM
Last run	N/A
Number of runs	0

 **Protocol edited**
Changes will be saved automatically when leaving editor. Click Undo to restore values

Press F1 for help

Instrument connected EnVision

Creating a Measurement technology/Label

General		Optimizations							
Plate	Meas Height	Height Optimized	Delay	Window time	TRF Optimized	Flashes	Z' Optimized	Flatfield Optimized	
384 OptiPlate	N/A	N/A	30	300	4/29/2015 3:3	N/A	N/A	N/A	
384 AlphaPlate	N/A	N/A	30	300	4/29/2015 3:3	N/A	N/A	N/A	
384 OptiPlate White	N/A	N/A	30	300	4/29/2015 3:3	N/A	N/A	N/A	
Greiner 384 for BI	N/A	N/A	30	300	4/29/2015 3:3	N/A	N/A	N/A	
384 well Corning Lo	N/A	N/A	30	300	4/29/2015 3:3	N/A	N/A	N/A	

- Wallac ABS 405 Test Plate
- Wallac ABS 450 Test Plate
- Wallac ABS 492 Test Plate
- * Wallac ABS Mono 405 Test Plate
- * Wallac ABS Mono 405 Test Plate (180)
- Absorbance @ 450 BFP
- * Absorbance Monochromator 450
- * Copy of Absorbance @ 405
- * Service Wallac ABS 405 Test Plate
- AlphaScreen
- Fluorescence Intensity
- Fluorescence Polarization
- Ultra Sensitive Luminescence
- Luminescence
- DELFI - Time-resolved Fluorescence
- LANCE - Time-resolved Fluorescence
- Homogeneous TRF
- Homogeneous TRF Laser
- Homogeneous TRF Laser Precision

Excitation filter: ■ Photometric 405 - Ex Slot 3

Measurement height (mm):

Excitation light (%):

Number of flashes:

Number of flashes per A/D conversion:

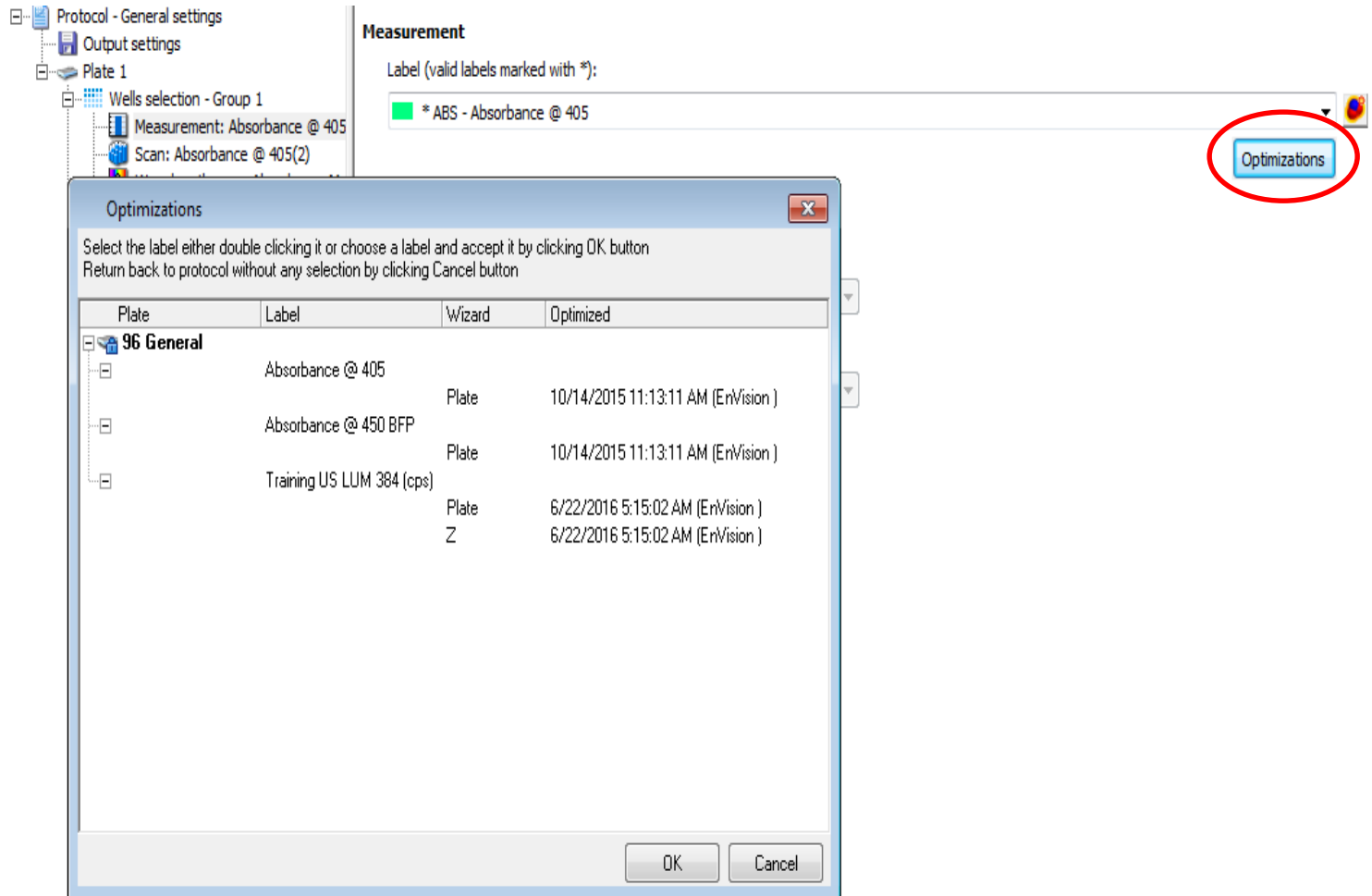
Reference signal: N/A

Reference AD gain: N/A

Reference Excitation light (%): N/A

Changed: 3/9/2015 11:35:30 AM (EnVision)

Existing Optimizations



The screenshot shows a software interface with a 'Measurement' panel and an 'Optimizations' dialog box. The 'Measurement' panel has a dropdown menu with the selected item '* ABS - Absorbance @ 405'. A red circle highlights an 'Optimizations' button to the right of the dropdown. The 'Optimizations' dialog box is open, displaying a table of optimization data.

Measurement

Label (valid labels marked with *):

* ABS - Absorbance @ 405

Optimizations

Select the label either double clicking it or choose a label and accept it by clicking OK button
Return back to protocol without any selection by clicking Cancel button

Plate	Label	Wizard	Optimized
96 General			
	Absorbance @ 405	Plate	10/14/2015 11:13:11 AM (EnVision)
	Absorbance @ 450 BFP	Plate	10/14/2015 11:13:11 AM (EnVision)
	Training US LUM 384 (cps)	Plate	6/22/2016 5:15:02 AM (EnVision)
		Z	6/22/2016 5:15:02 AM (EnVision)

OK Cancel

Optimizing an Absorbance Protocol

EnVision Manager 1.13.3009.140

File Edit View Tools Actions

Back Forward Up

Navigation Tree

- Reader Control
- Protocols
 - User protocols
 - User 1
 - User 2
 - User 3
 - Service
 - Jeanine
 - User 6
 - Daniel
 - User 8
 - Tom N Test
 - User 10
 - Nicholas Lin
 - Copy of Homogeneo
 - Mark G
 - Absorbance
 - Assay examples
 - Wallac protocols
- Results
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Assay Start Wizard

Select action

Select protocol

Optimization info

Plate preparation

Height progress

Height results

Plate progress

Plate results

Wavelength progress, ems

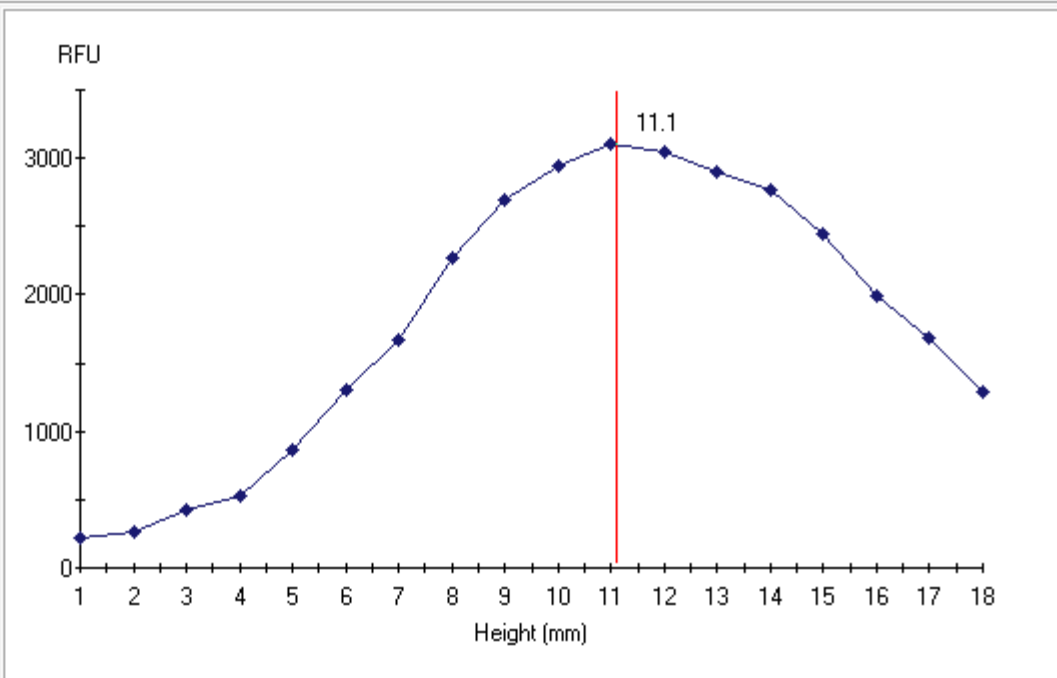
Wavelength results, ems

Wavelength progress, exc

Wavelength results, exc

Reference progress

Height results
Please check the height and modify it if necessary. Click 'Next' to continue.



Height (mm)	RFU
1	200
2	300
3	400
4	500
5	800
6	1200
7	1600
8	2200
9	2600
10	2900
11.1	3100
12	3000
13	2800
14	2600
15	2200
16	1800
17	1500
18	1200

Height = 11.1 RFU = 3102

384 ProxiPlate Copy of Fluorescein

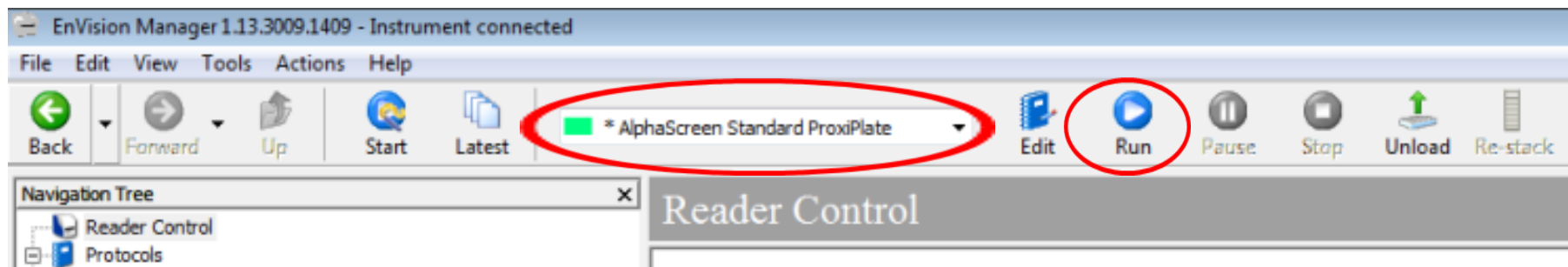
Help < Back Next > Cancel

Protocol edited
Changes will be saved automatically
on leaving editor.
Click Undo to restore values

Instrument connected EnVision

Press F1 for help

Starting your Protocol



EnVision Manager 1.13.3009.1409 - Instrument connected

File Edit View Tools Actions Help

Back Forward Up Start **Latest** Filter Open Delete

Navigation Tree

- Reader Control
- Protocols
 - User protocols
 - Assay examples
 - Wallac protocols
- Results**
- Inventory
- Temperature control
- Measurement Technologies
- Plates
- Samples
- Barcode Settings
- Reader Settings
- Recycle Bin

Results

Temperature control not activated. Current 23.46 °C

Protocol: ABS @ 405

Amount: Show last 500 results

Time: From: 7/11/2016 12:00:00 AM To: 7/18/2016 4:28:09 PM

Refresh

Assay ID	Simulated	Protocol	Started	Finished
1884	<input checked="" type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/18/2016 4:20:03 PM	7/18/2016 4:21:24 PM
1883	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/18/2016 4:18:32 PM	7/18/2016 4:19:52 PM
1882	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	7/14/2016 11:03:46 AM	7/14/2016 11:08:17 AM
1881	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/14/2016 8:53:19 AM	7/14/2016 8:54:40 AM
1880	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/14/2016 8:51:52 AM	7/14/2016 8:53:13 AM
1879	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/12/2016 3:23:40 PM	7/12/2016 3:25:01 PM
1878	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/12/2016 3:22:08 PM	7/12/2016 3:23:28 PM
1877	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/12/2016 3:21:18 PM	7/12/2016 3:21:47 PM
1876	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	7/12/2016 1:40:34 PM	7/12/2016 1:44:00 PM
1875	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	7/11/2016 2:15:12 PM	7/11/2016 2:19:46 PM
1874	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	7/11/2016 2:10:13 PM	7/11/2016 2:14:49 PM
1873	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	7/11/2016 2:05:12 PM	7/11/2016 2:09:47 PM
1872	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	7/11/2016 1:12:26 PM	7/11/2016 1:14:53 PM
1871	<input type="checkbox"/>	AlphaScreen 384 OptiPlate	7/5/2016 1:02:46 PM	7/5/2016 1:07:18 PM
1870	<input type="checkbox"/>	AlphaScreen 384 OptiPlate	7/5/2016 12:58:34 PM	7/5/2016 12:58:56 PM
1869	<input type="checkbox"/>	ABS 405 On-the-Fly	7/5/2016 12:52:36 PM	7/5/2016 12:53:12 PM
1868	<input type="checkbox"/>	ABS 405 On-the-Fly	7/5/2016 12:52:13 PM	7/5/2016 12:52:33 PM
1867	<input type="checkbox"/>	Wallac ABS 405 Test Plate	7/5/2016 12:48:37 PM	7/5/2016 12:48:52 PM
1866	<input type="checkbox"/>	ABS @ 405	7/5/2016 12:47:46 PM	7/5/2016 12:48:23 PM
1865	<input type="checkbox"/>	Wallac ABS 405 Test Plate	7/5/2016 11:45:20 AM	7/5/2016 11:45:38 AM
1864	<input type="checkbox"/>	DELFI A cytotox	6/29/2016 2:52:35 PM	6/29/2016 2:53:08 PM
1863	<input type="checkbox"/>	DELFI A cytotox	6/29/2016 2:49:05 PM	6/29/2016 2:49:46 PM
1862	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	6/28/2016 9:08:59 AM	6/28/2016 9:10:28 AM
1861	<input type="checkbox"/>	AlphaScreen Standard AlphaPlate	6/23/2016 5:07:02 PM	6/23/2016 5:08:11 PM
1860	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	6/23/2016 4:18:36 PM	6/23/2016 4:19:37 PM
1859	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	6/23/2016 3:07:35 PM	6/23/2016 3:10:00 PM
1858	<input type="checkbox"/>	Sequential Read Tb then Eu	6/23/2016 2:59:11 PM	6/23/2016 3:02:47 PM
1857	<input type="checkbox"/>	Tb/Eu	6/23/2016 2:56:45 PM	6/23/2016 2:58:40 PM
1856	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	6/23/2016 2:42:00 PM	6/23/2016 2:43:01 PM
1855	<input type="checkbox"/>	AlphaScreen Standard ProxiPlate	6/23/2016 2:12:16 PM	6/23/2016 2:13:37 PM
1854	<input type="checkbox"/>	AlphaScreen Standard OptiPlate	6/23/2016 2:02:04 PM	6/23/2016 2:03:24 PM
1853	<input type="checkbox"/>	AlphaScreen Corning plate	6/23/2016 1:46:20 PM	6/23/2016 1:48:26 PM

Press F1 for help Instrument connected EnVision



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Advanced Training Course

Advanced topics for assay optimization

- Techniques for getting maximum sensitivity
- Techniques for getting maximum speed
- Optimizing assays with high energy or saturating levels of energy
- Advanced topics using the Optimization Wizard
- Cover advanced topics for each Measurement technology

Advanced topics for optics

- Filter and mirror training
- Understanding the light path
- PMT concepts

Trouble shooting concepts

- Concepts to determine if an error/plate pattern is caused by the EnVision or not
- Common user errors, and how to remedy
- Techniques for isolating optimization and system issues
- Removing passwords from locked protocols and labels

Advanced concepts in real-time Data Analysis

- Options with sample maps
- How to generate standard curve and apply it to data
- Blank corrected assay data
- General calculations
- Using advanced calculations

Concepts and programming for Liquid Dispenser

Hands on assay optimization

- Optimizing a problematic assays in FI, FP, and TR-FRET
- Create a new protocol for each technology to illustrate how all of the settings are used
- Create protocols that use the TRF Laser vs standard Xenon to illustrate why and when you would select the appropriate light source (If TRF Laser option is available)
- Create a inject and read assay (If dispenser is available)

Advanced User Certification



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Hands on Training

Lab Training Curriculum

- Hardware overview (in front of machine)
 - Proper power up sequence, and starting of software
 - Identify all of the key pieces of hardware
 - Demonstrate filter, mirror(top and bottom), and aperture changing
 - Show plate orientation, and identify the A1 location on plate holder
 - Using stackers (If applicable)
 - Dispenser Overview (If applicable)
- Basic programming of Protocols
- Optimization of 2-3 protocols User creates the protocol
- Demonstration of applying basic calculations and exporting data after assay has been run.
- Cover what is available in an Advanced Training session