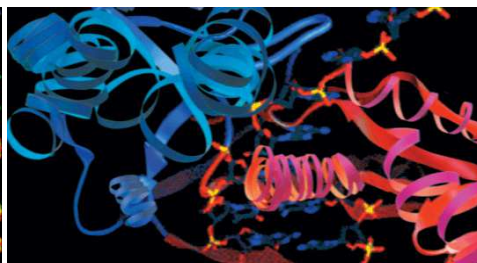
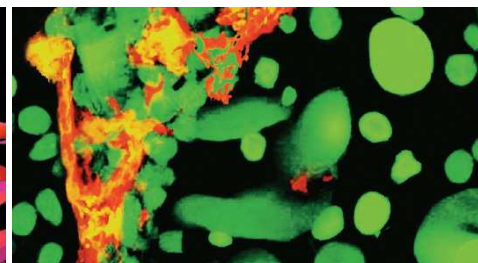




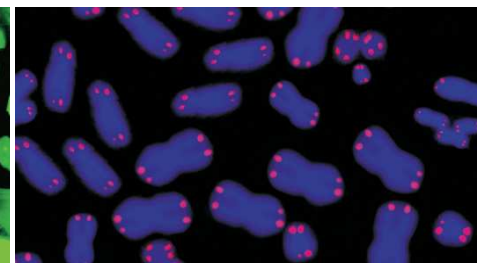
Genomics



Proteomics



Diagnostics



Drug Discovery

New Horizons in Detection Solutions

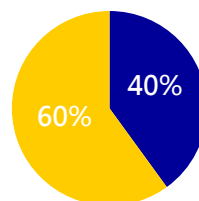
Microplate Format and Solution

- Low volume handling, save your buffers and time!!
- Free definition of formats up 6 to 384 well plate
- Broad applications design
- Assay preparation requires only pipette



TECAN – Who We Are

Life Science Research



Clinical Diagnostics



Direct and OEM business



**Worktable
Platform**



**Detection
Devices**



**Sample
Management**



OEM



**Customer
Services**

TECAN Detection Devices

Sunrise



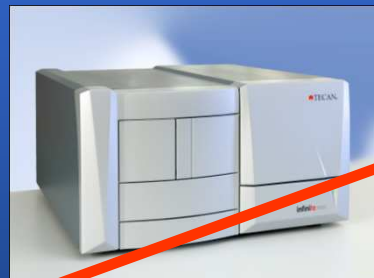
Absorbance

Infinite 200



Ab, NanoQuant, FL,
Lu, FP,
FRET, BRET,

Infinite F500



Ab, FL, Lu
FP, FRET,
BRET, HTRF

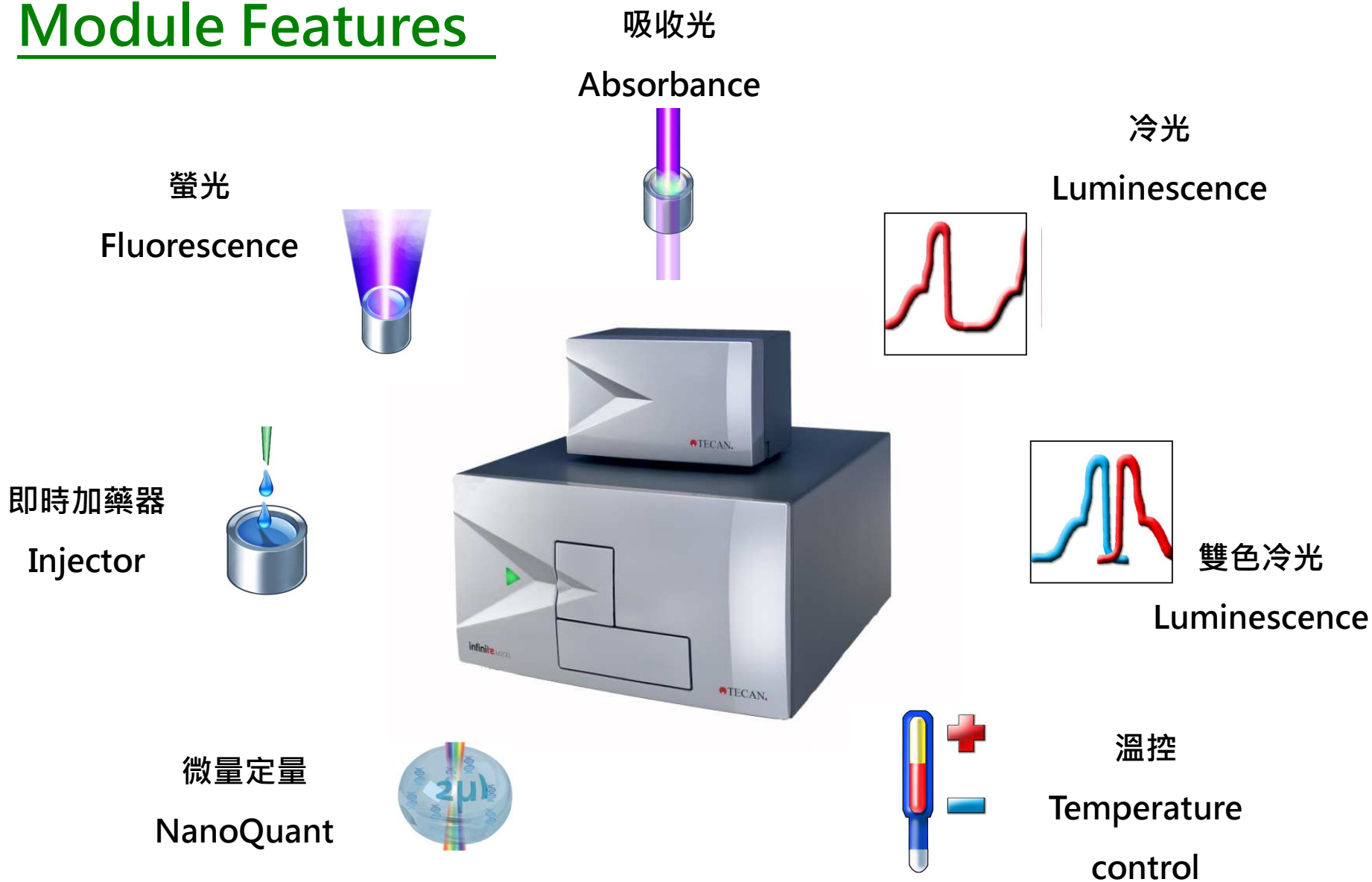
Infinite M1000



Ab, FL, Lu
FP, FRET,
Monochromator

Multi-Functional Readers

Module Features



Two Systems with Detection Device

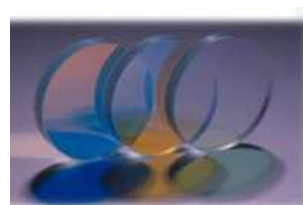
Monochromator-based systems		Filter-based systems	
Advantages	Limitations	Advantages	Limitations
Flexibility, convenience, ease-of-use, easy set-up	Loss of light	High efficient light transmission	No spectral scanning
Spectral scanning	Bandwidth adjustment	High reading speeds	Finding the right filters, filter definition, general filter limitations, filter switching, filter lifetime, costs for variety of filters for all applications
	Low sensitivity in luminescence mode (if light goes through monochromator)	Precise control of optical parameters (filter definition)	
	Slow switching between wavelengths	Fast wavelength switching e.g. Infinite F500 (ultra light filter slides)	
↓	↓	↓	↓
„Flexibility“	„Sensitivity, Speed“	„Sensitivity, Speed“	„Flexibility“

What Device Is You Really Need???

Detection Device is Infinite



Monochromator's
flexibility



Filter's
sensitivity



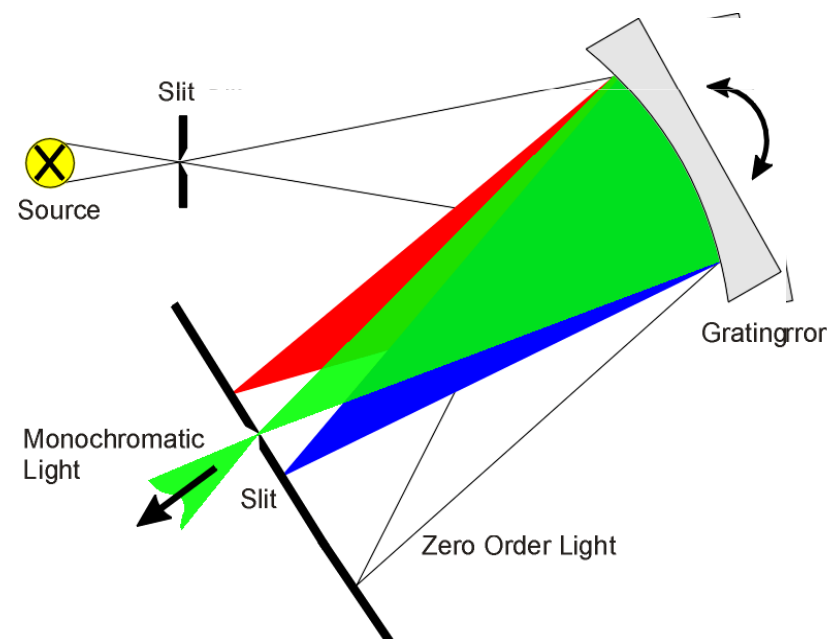
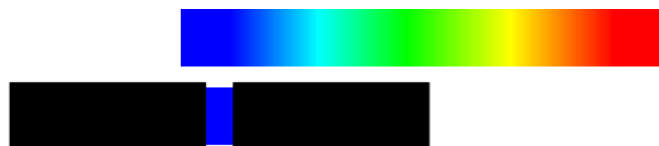
TECAN quad4
technology

- Access all wavelengths with one detection device
- Excellent sensitivity via advanced optic system
- Improved sensitivity reduces stray light down to 10^{-6}

Monochromator Principle

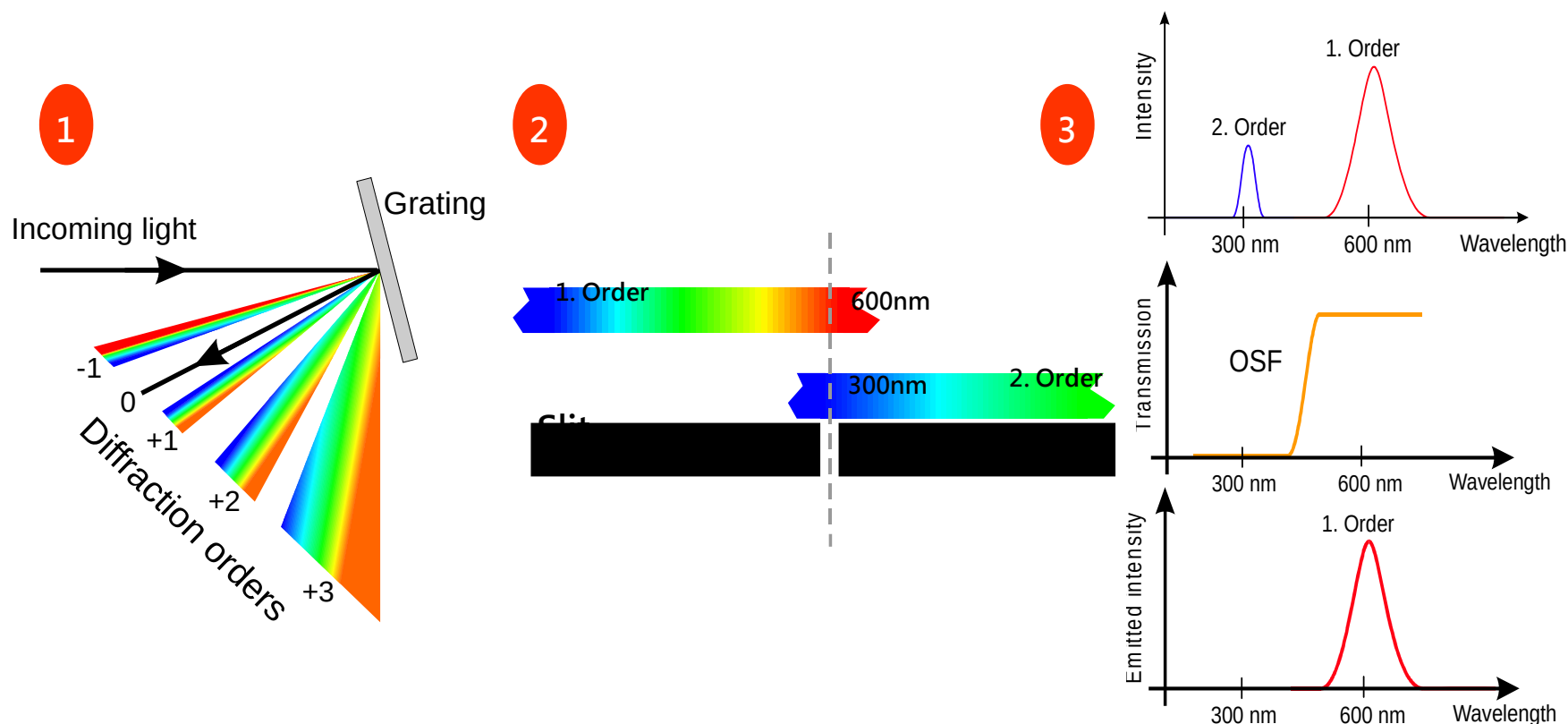
- Turning the grating determines the colour which passes through the exit slit

AGif - UNREGISTERED



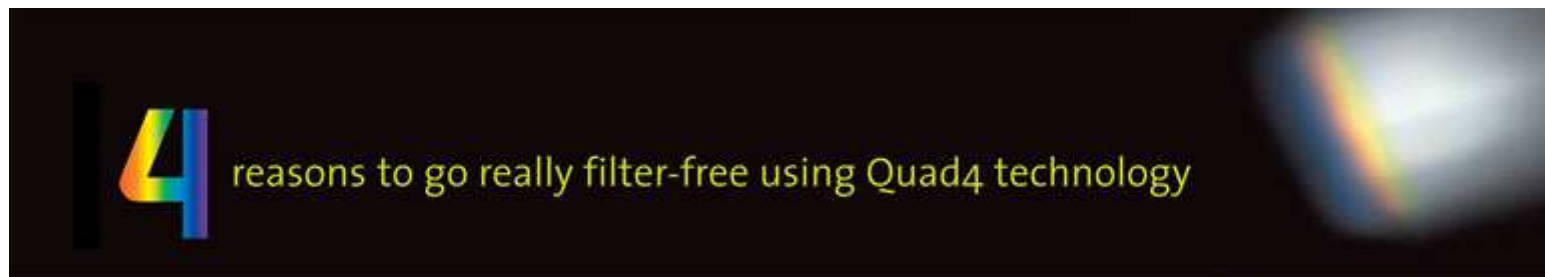
Order Sorting

1. A grating produces unwanted 'higher order' spectra.
2. Higher order spectra overlap with the first order spectrum.
3. Insert order sorting filter (OSF) to block second order light



New Quad4 Monochromator

- An advanced Quad4 Monochromator system
- 4 reasons with Quad4 monochromator technology
 1. More accurate readings
 2. True wavelength flexibility
 3. Improved sensitivity reduces stray light down to 10^{-6}
 4. Faster scan times



Speed

Type	Measuring Time
96 Well Plate	20 sec
384 Well Plate	30 sec
Spectra Scan 96 Well Plate 450~550nm 5nm step	150 sec

Accuracy

1. 波長精確度： $< \pm 0,5 \text{ nm}$ for $\lambda > 315 \text{ nm}$; $< \pm 0.3 \text{ nm}$ for $\lambda \leq 315 \text{ nm}$

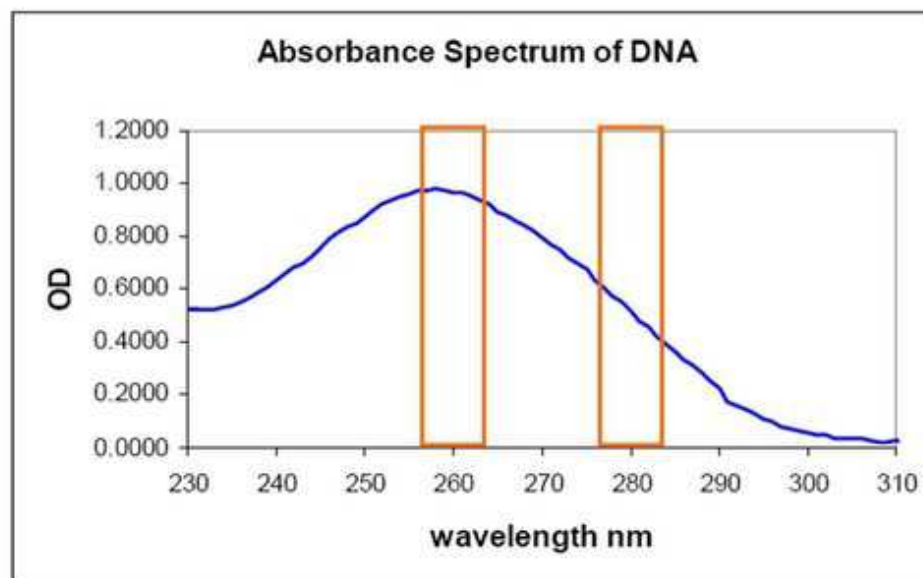
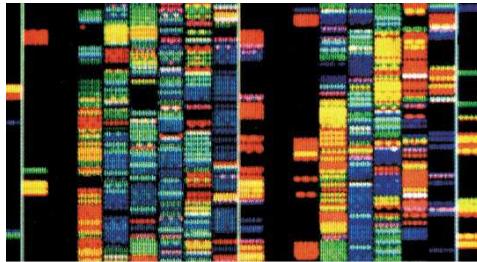
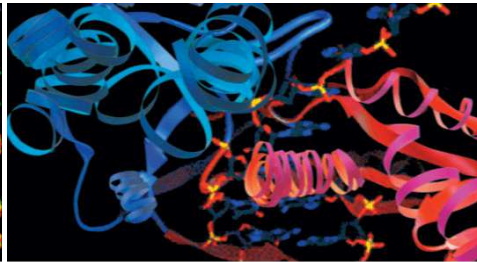


Figure 1: Absorbance spectrum of DNA diluted in distilled water measured with a Tecan Safire

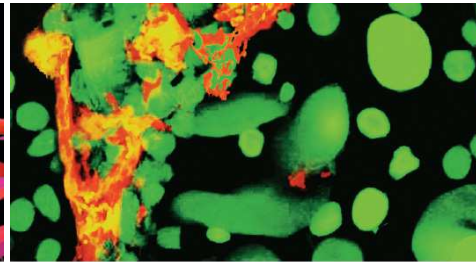
Well positions	260	278	280	282	310	260-310	278-310	280-310	282-310	260/278	260/280	260/282
A1	0.0568	0.0566	0.0566	0.0565	0.0562	0.0006	0.0004	0.0004	0.0003	1.50	1.50	2.00
B1	0.0673	0.0671	0.067	0.067	0.0666	0.0007	0.0005	0.0004	0.0004	1.40	1.75	1.75
C1	0.0776	0.0773	0.0773	0.0772	0.0767	0.0009	0.0006	0.0006	0.0005	1.50	1.50	1.80



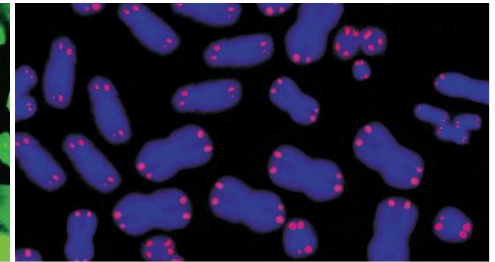
Genomics



Proteomics



Diagnostics



Drug Discovery

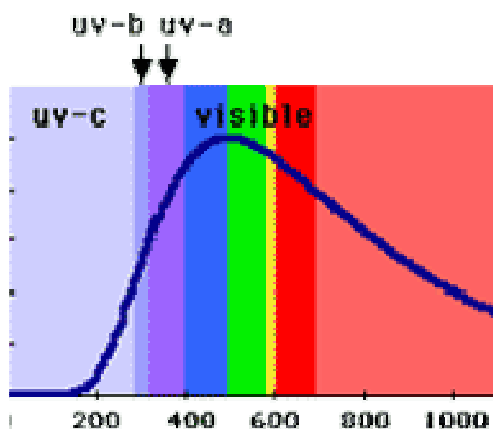
Access to a full range of the detection modes



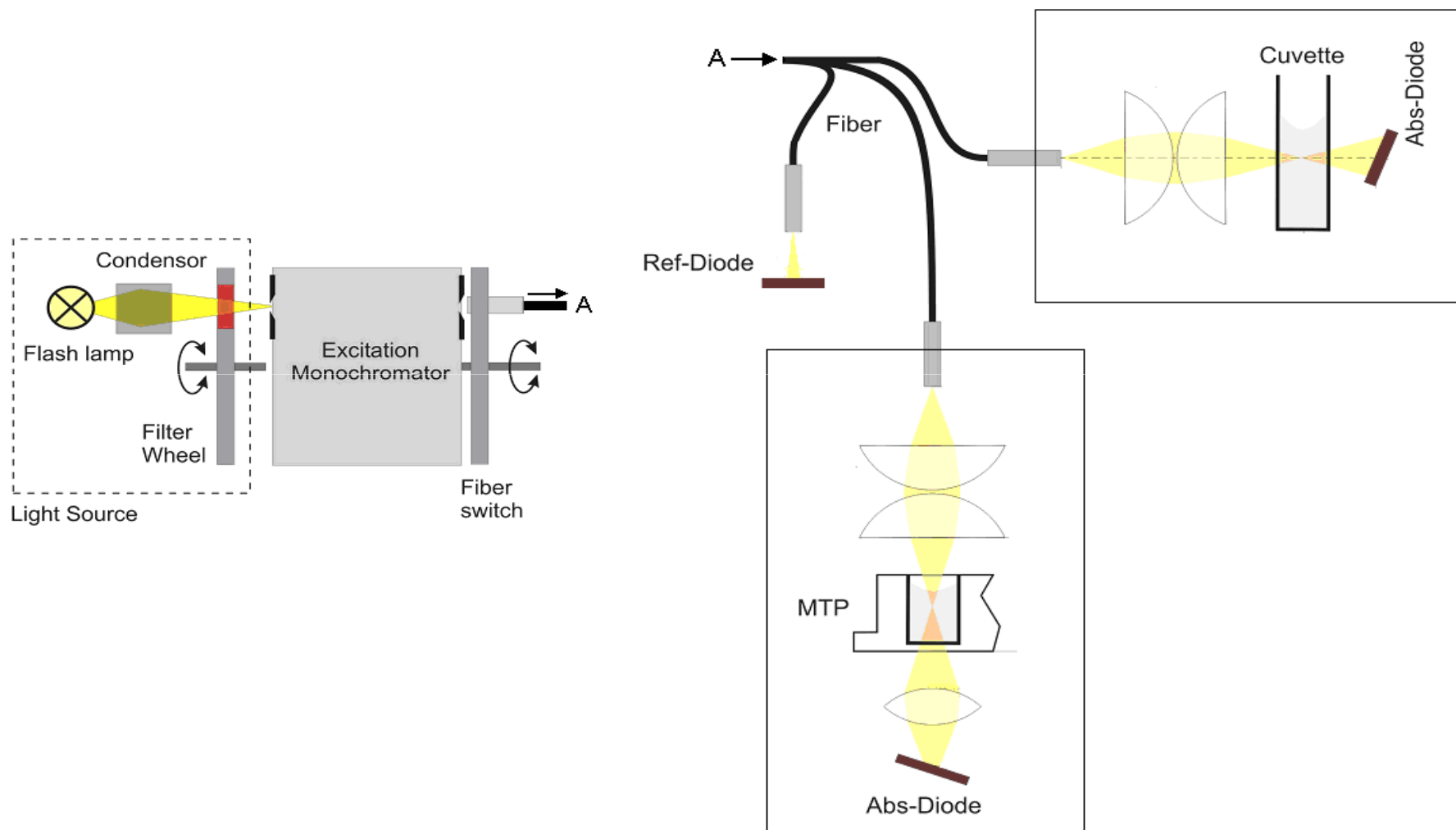
- Absorbance
- Fluorescence
- Luminescence
- New Features and Options

Absorbance

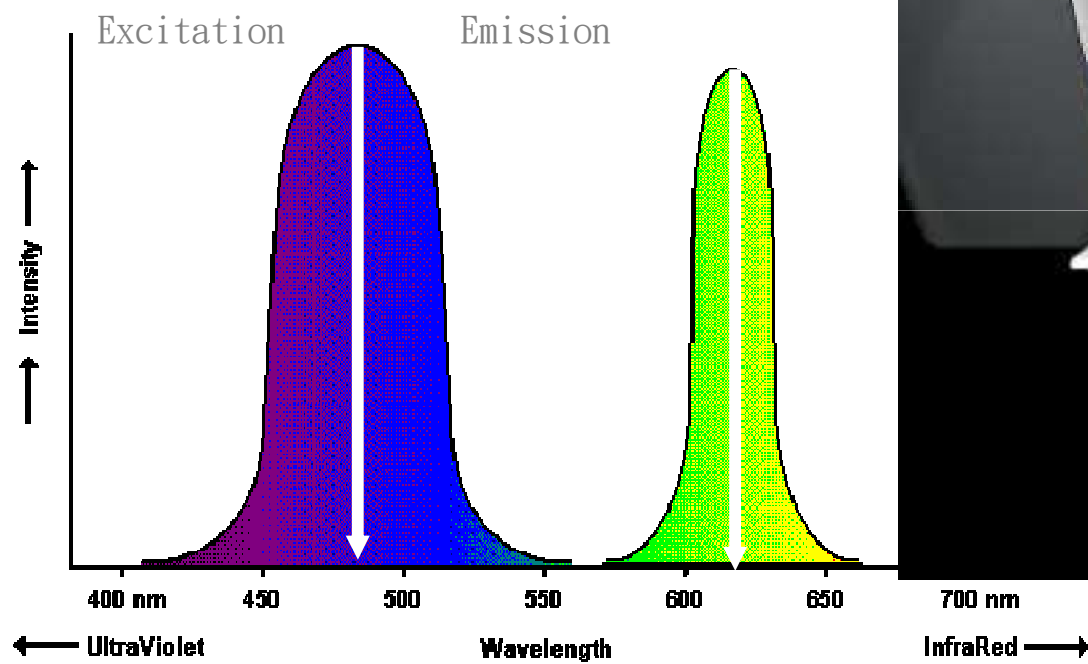
1. 偵測器：UV Silicon photodiode
2. 波長範圍：230 ~1000 nm (UV/VIS/NIR)
3. 測量範圍：0 ~ 4 OD
4. 波長精確度： $< \pm 0.3 \text{ nm}$ for $\lambda \leq 315 \text{ nm}$



Absorbance Optics

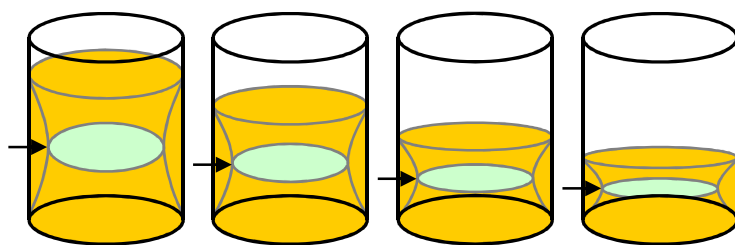


Fluorescence

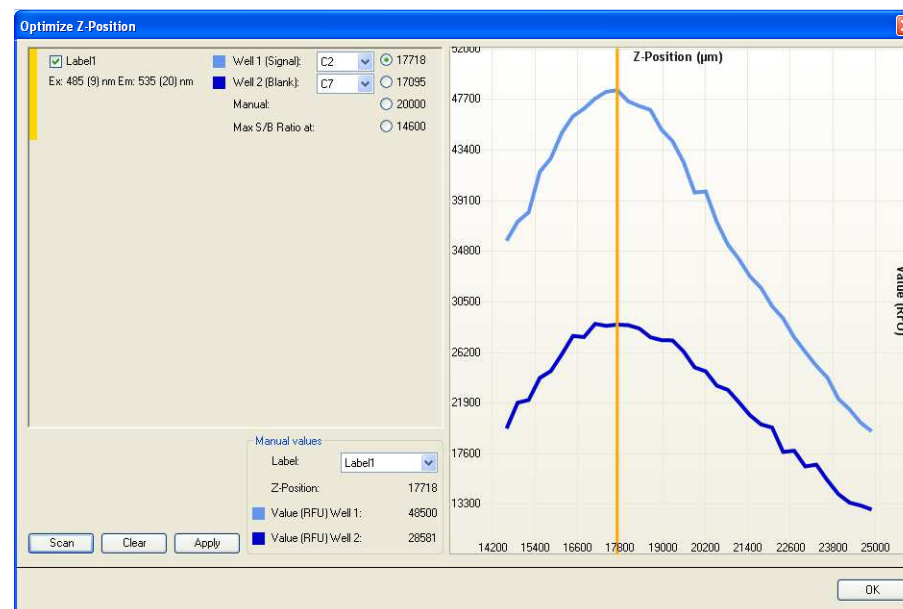


Fluorescence Automated Z-Focus

上方判讀實驗時，可依據液面的折射光線自動調整讀取頭高度，功能可在螢光判讀時**克服樣品體積差異所造成的訊號偏差，增加判靈敏度，得到最佳signal to noise結果。**



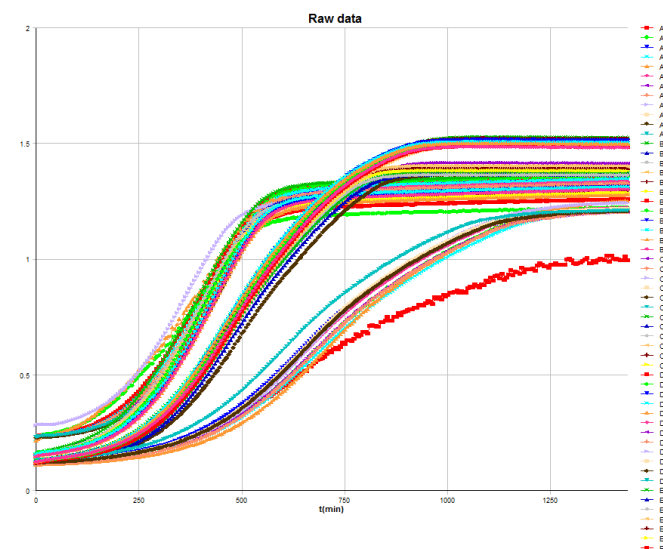
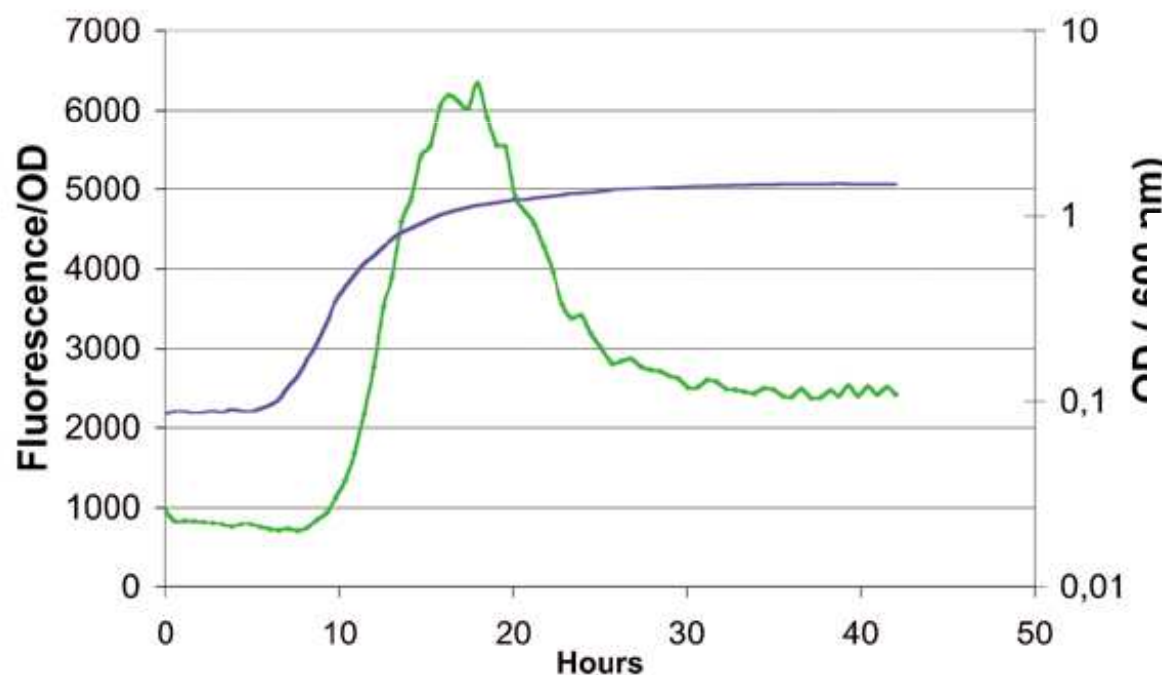
→ Emission signal focal plane



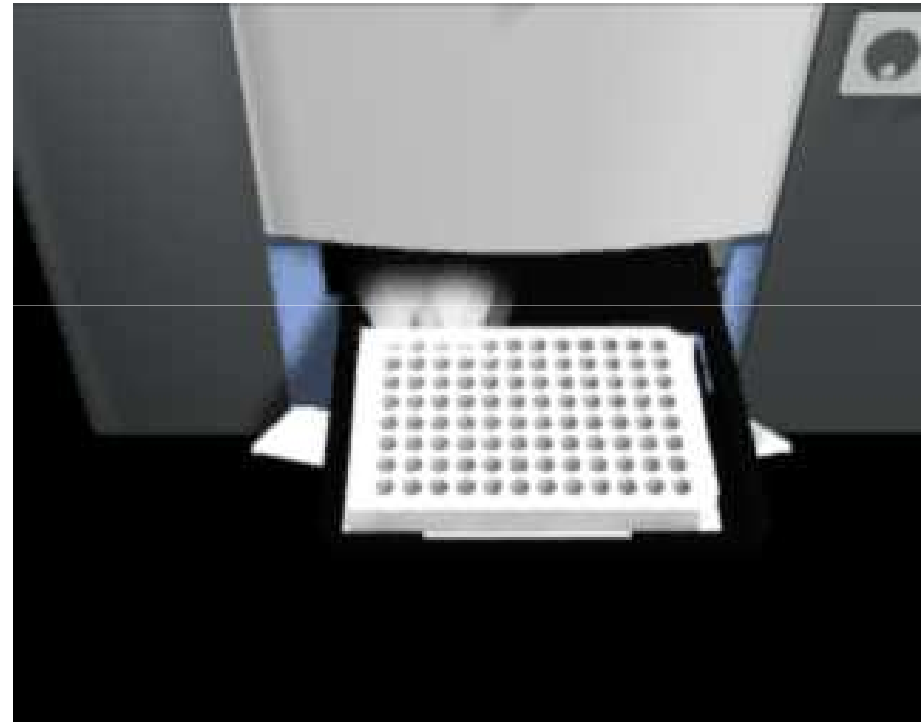
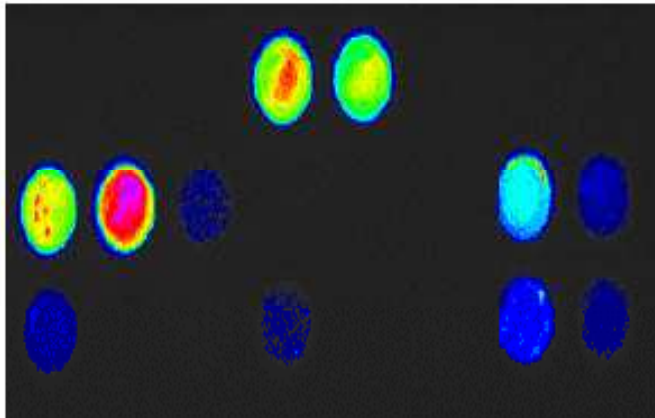
Kinetic & Multi-label Reading

可於一段時間內持續偵測，方便觀察趨勢變化

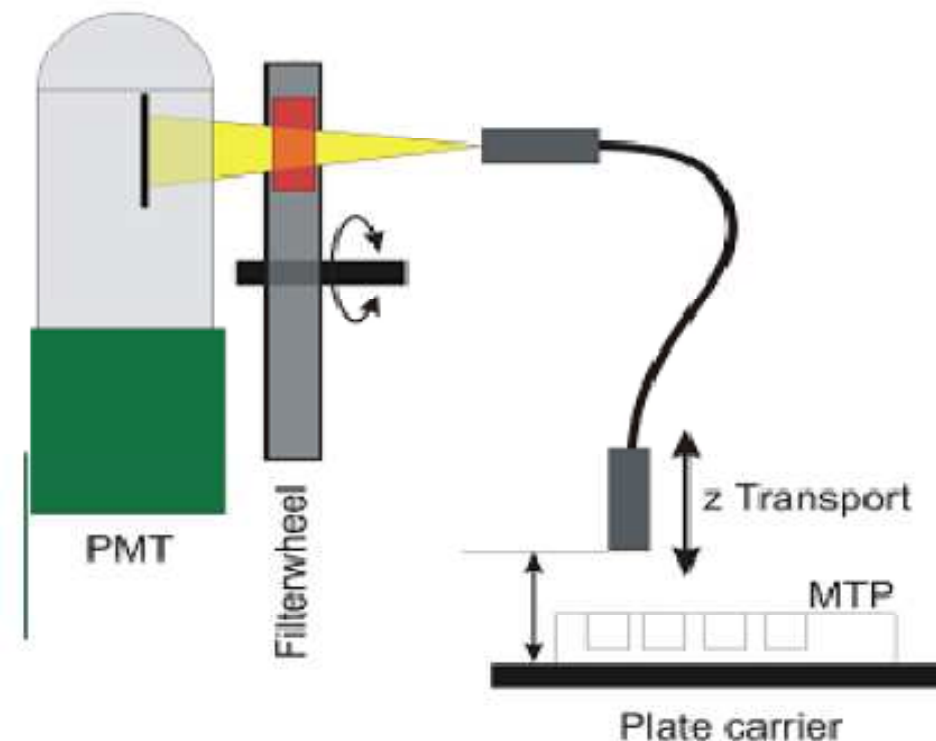
並可支援多種偵測模式同時並行 (如吸收光、螢光同時偵測)



Luminescence



Luminescence Optics



支援Glow, Flash Type冷光，雙色冷光

- Green (510~540nm, Chroma-Glo, BRET²)
- Magenta (610~700nm, Chroma-Glo, BRET²)
- Blue1 (370~480nm, BRET)
- Green1 (520~570, BRET)

New NanoQuant Technology

- Highly sensitive absorbance reader for low sample volumes



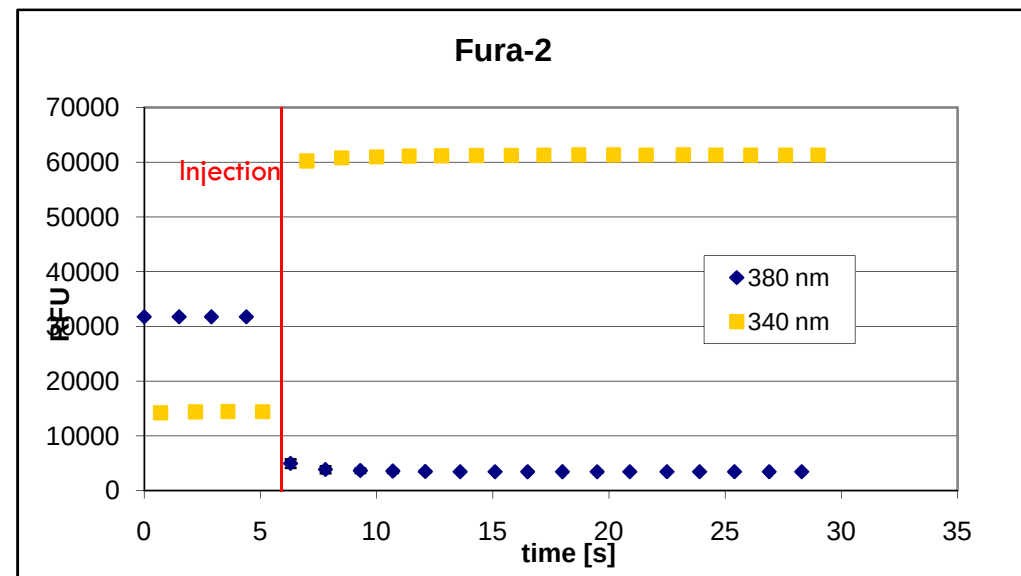
Sample Type: dsDNA

	1				2			
A	Abs		Value		Abs		Value	
	260	0,0638 OD	19,45	ng/µl	260	0,0646 OD	18,85	ng/µl
B	280	0,0528 OD	1,76	ratio	280	0,0535 OD	1,82	ratio
	Abs		Value		Abs		Value	
C	260	0,0622 OD	17,65	ng/µl	260	0,0635 OD	18,45	ng/µl
	280	0,0516 OD	1,83	ratio	280	0,0526 OD	1,82	ratio
D	Abs		Value		Abs		Value	
	260	0,0633 OD	17,35	ng/µl	260	0,064 OD	18,15	ng/µl
E	280	0,0532 OD	1,76	ratio	280	0,0538 OD	1,72	ratio
	Abs		Value		Abs		Value	
F	260	0,0613 OD	17,65	ng/µl	260	0,0613 OD	17,05	ng/µl
	280	0,0512 OD	1,74	ratio	280	0,0513 OD	1,77	ratio
G	Abs		Value		Abs		Value	
	260	0,0669 OD	18,95	ng/µl	260	0,0665 OD	19,15	ng/µl
H	280	0,0562 OD	1,75	ratio	280	0,0557 OD	1,75	ratio
	Abs		Value		Abs		Value	
A	260	0,0614 OD	17,05	ng/µl	260	0,0641 OD	18,15	ng/µl
	280	0,0513 OD	1,79	ratio	280	0,0535 OD	1,79	ratio
B	Abs		Value		Abs		Value	
	260	0,0734 OD	19,65	ng/µl	260	0,0699 OD	19,65	ng/µl
C	280	0,0624 OD	1,75	ratio	280	0,059 OD	1,73	ratio
	Abs		Value		Abs		Value	
D	260	0,0624 OD	17,75	ng/µl	260	0,0646 OD	17,65	ng/µl
	280	0,0519 OD	1,80	ratio	280	0,0544 OD	1,76	ratio

© TECAN Austria

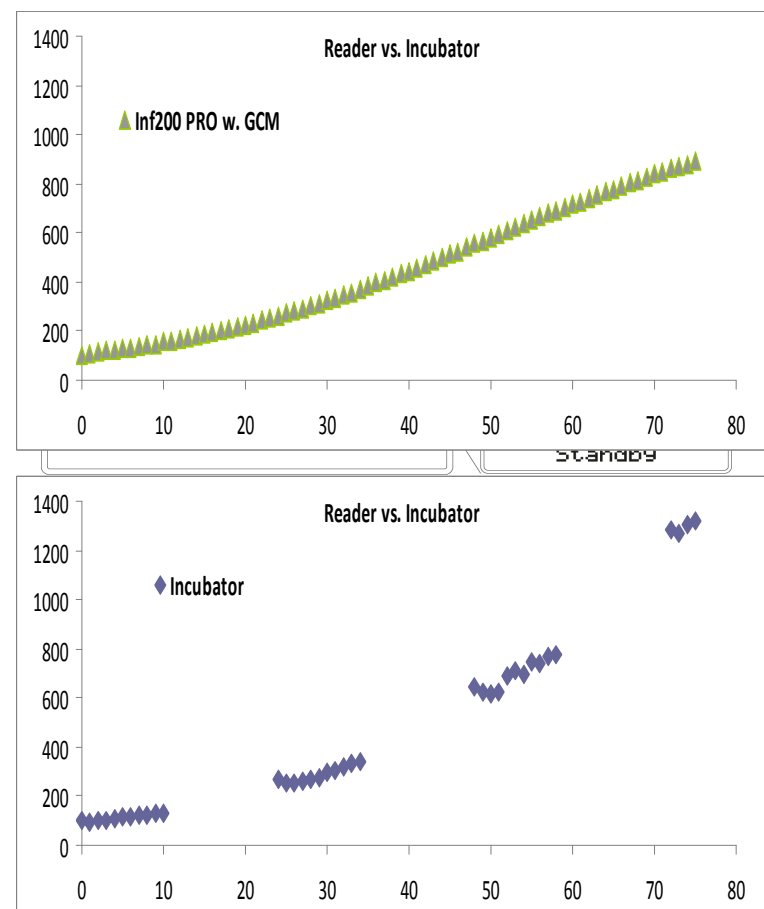
Injector Module

- Injection option replace your manual pipetting
- Light protected pump module
- Prime/Wash button on injector module



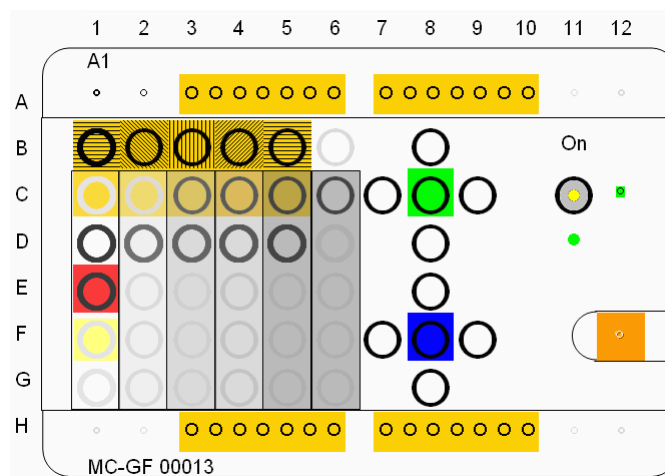
Gas Control Module

- Rigorous Environmental Control Within the Reader Chamber
- CO₂ concentration from 0 – 10 %
- O₂ concentration from 0.5 – 21 %
O₂ replaced with N₂ gas



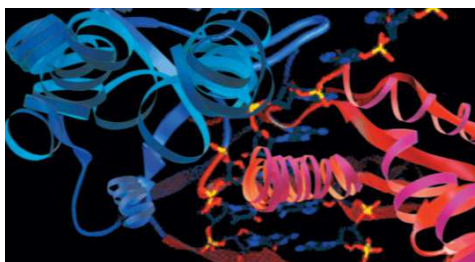
TECAN Reader QC Tool

- QC tool for your TECAN Readers.
- NIST traceability.
- An annual recalibration service.
- Providing IQOQ documentation.

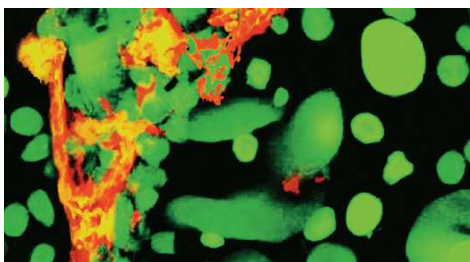




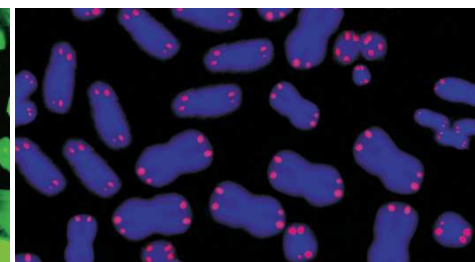
Genomics



Proteomics



Diagnostics



Drug Discovery

TECAN Grows With Your Application Ideas



Broad Applications

Genomic applications - eg

- DNA/RNA quantification
- Reporter gene assays



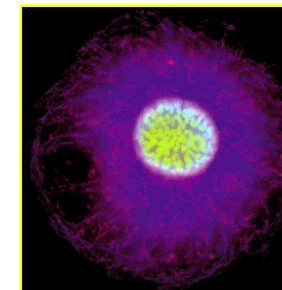
Cell based assays - eg

- Ion studies
- MTT assay
- Apoptosis



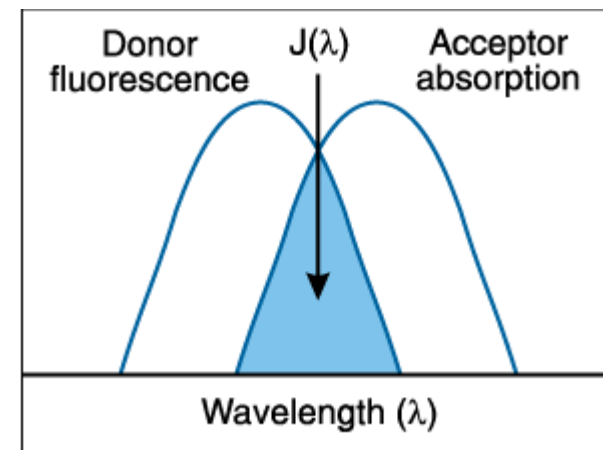
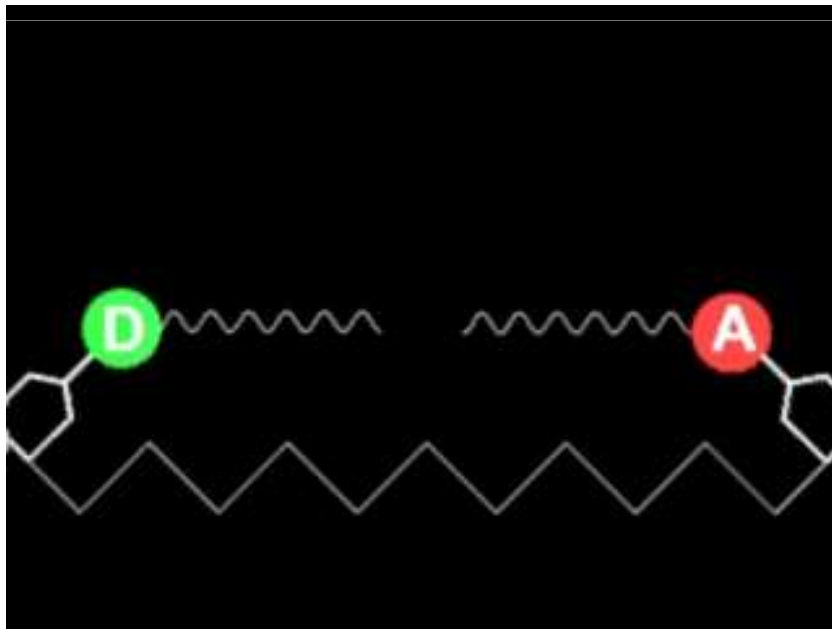
Monitoring of molecular interactions - eg

- Receptor ligand interactions
- DNA/protein binding
- Protein/protein binding



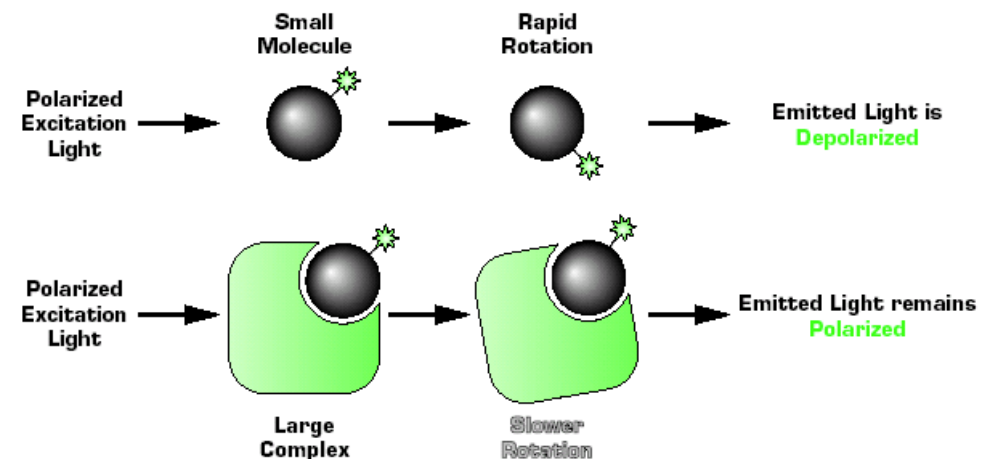
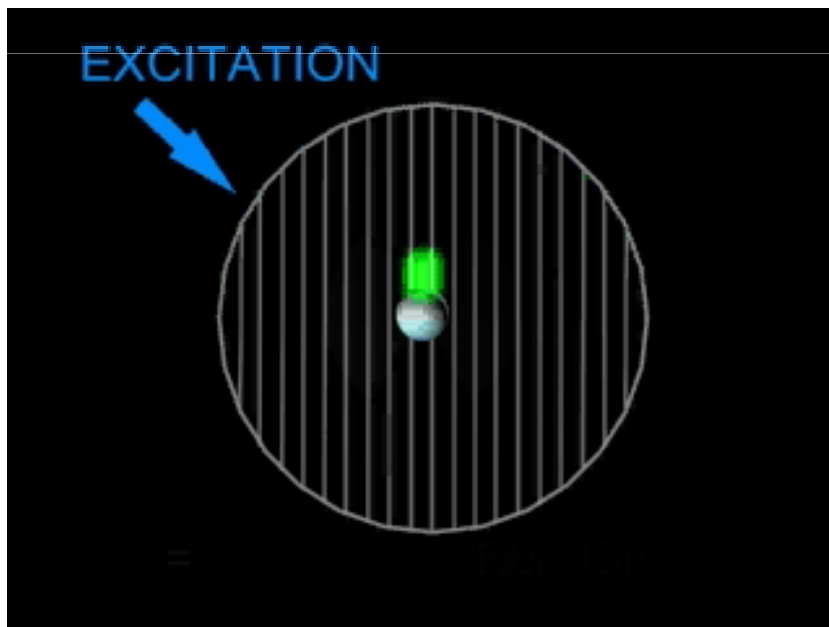
Fluorescence Resonance Energy Transfer (FRET)

- Two molecular (donor and acceptor) in close proximity (typical 10-100 Å)
- The absorption spectrum of the acceptor must overlap the fluorescence emission spectrum of the donor.



Fluorescence Polarization (FP)

- A measure of the rotational mobility that used to observe molecular interactions
- Binding of molecules >> speed of rotation



The DEMO Video

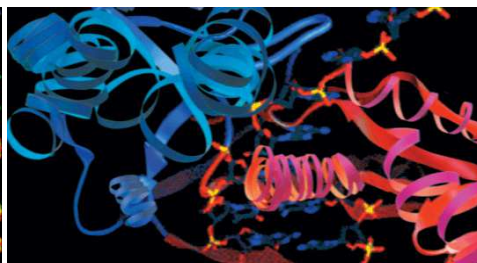


Why With Us ??

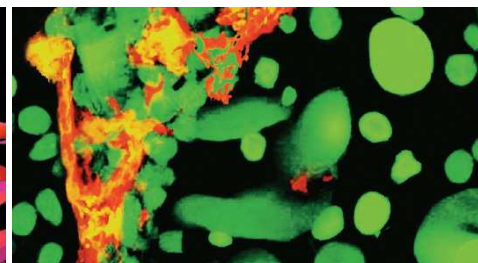
- Open system allows unlimited flexibility of applications
- Advanced Quad4 monochromator technology
- Quality services and after sales support
- No lab will be completed without TECAN!!!



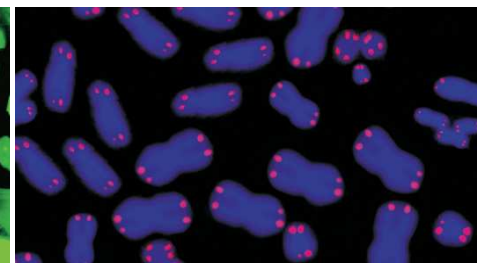
Genomics



Proteomics



Diagnostics



Drug Discovery

Thanks For Your Attention !!!

