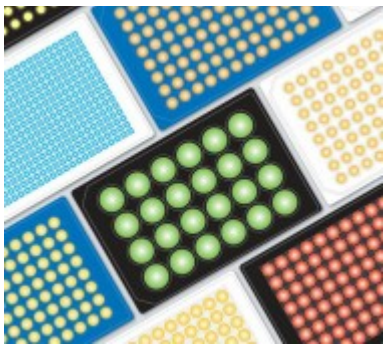
Interchim Innovations

Interbiotech - BioScience Innovations



FPLyte Microplates

FPlyte plates are state of art microplate optimized for fluorescence, luminescence and scintillation assays

- 24-, 96- and 384-wells formats
- Natural, Tissue culture treated or improved cell binding
- Eliminate misreads and significantly increase precision measurement (limited well-to-well light cross talk)

FPlyte™ microplates are made of extra-clear polystyrene by advanced technology, that is designed for applications such as fluorescence, luminescence and scintillation in instruments reading from below or above the wells, although suiting also colorimetric detections, as well as turbidity. They cover a vrfiety of applications (immunoassays, cell assays, enzyme assays,...) from R&D to QC and HTS (bar coding is available), and are fully compatible with all automated liquid handling systems, photometric readers, and robotic handling devices. Several formats are available: 24-, 96- 384- and 1536-wells, with different well volumes and shape, clear or opaque well's walls, natural or treated surfaces for High Binding or for Tissue Culture.

FPlyte microplates are ideal for quantitative assays at excitation wavelengths in the long-wavelength UV area between 325nm – 425nm. They offer **excellent photometric performance** down to 325nm (80%T at 325nm, 100%T at 335nm). assays such as HNK-1 ($\lambda_{exc./em.}$: 325/380nm), Thiguanine ($\lambda_{exc./em.}$: 330/410nm) using black FPlyte microplates, as well as many absorbance assays including Vitamin A (325nm), retinol and retinyl acetate (325nm), caspase (325nm), acid phosphatase (330nm) and hydroxyproline (335nm) using white FPlyte microplates.

*General features

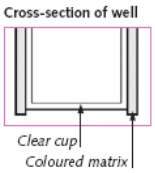
- All of these plates are manufactured from high quality polystyrene.
- Black plates have low background fluorescence and minimise light scattering
  White plates enhance bio- & chemi-luminescence signals and have low background luminescence and fluorescence
  Clear bottomed well plates suit reading from below or above while Opaque bottomed well plates suit reading from above only, with better signal.
- Standard SBS/ANSI format (127.6 x 85.6mm)
- Alphanumerically labelled wells mean samples can be stored and easily traced
- DNase and RNase free

*Ordering information:

	Nb of wells	Plate matrix	Well walls	Well bottom	FPLyte Standard (4x20u)	FPLyte HiBind (100u)	FPLyte TissueCulture (4x20u) (with lids, sterile)	FPLyte TC-HTS (4x20u) (with lids, sterile)
24 wells format microplates								
FPlyte-OP 24 x 3.1ml round wells plates, for large volumes/cell culture + fluor-/lumin-escence reading from below or above								
FPlyte-W24	24	White	White	Clear b	**FP-BA8070**	FP-BA8080	FP-BA8090	-
FPlyte-B24	24	Black	Black	Clear b	**FP-BA8100**	FP-BA8110	FP-BA8120	-
FPlyte-WW24	24	White	White	White				
FPlyte-BW24	24	Black	Black	Black				
96 wells format microplates								
FPlyte™ 96 x 350µl round wells microplates, for fluorescence and luminescence with reading from below or above-standard								
FPlyte-W96	96	White	White	Clear	**FP-BA7810**	-	FP-BA7880	-
FPlyte-B96	96	Black	Black	Clear	**FP-BA7890**	-	FP-BA7910	-
FPlyte™NCT96 x 350µl round wells microplates, for fluor-/lumin-escence reading from below or above – No light Cross Talk								
FPlyte-NCTW96	96	White	White	Clear ib	**FP**-BA7950	FP-BA7960	FP-BA7970	FP-BA8020
FPlyte-NCTB96	96	Black	Black	Clear ib	**FP**-BA7990	FP-BA8000	FP-BA8010	FP-BA8030

FPlyte-OP 96 x 350µl round wells microplates, for luminescence with reading from above								
FPlyte-WW96	96	White	White	White	FT-CP6330	FT-TE6840	FT-BZ2480	
FPlyte-BW96	96	Black	White	White	FP-**BA8040**	FP-BA8050	FP-BA8060	-
FPlyte-BB96	96	Black	Black	Black	FT-**TE6950**	FT-TE6850	FT-TE6650	
FPlyte- 96 x 350/300/240µl round wells microplates, for spectroscopy with reading from above or below								
FPlyte-C96fl	96	Clear	Clear	Clear flat	FT-TE7510			
FPlyte-C96U	96	Clear	Clear	Clear U (rd)	FT-DO6050			
FPlyte-C96V	96	Clear	Clear	Clear V	FT-TE7520			
384 wells format microplates								
FPlyte 384 x 120µl square wells microplates, for fluorescence and luminescence with reading from below or above – standard								
FPlyte-C384	384	Clear	Clear	Clear	FP-BA8210	FP-BA8220	FP-BA8230	-
FPlyte-W384	384	White	White	White	**FP-BA8240**	FP-BA8250	FP-BA8280	-
FPlyte-B384	384	Black	Black	Black	**FP-BA8290**	FP-BA8300	FP-BA8320	-
FPlyte-SV 384 x 30µl round wells microplates, for fluor-/lumin-escence reading from below or above – Small Volume sample								
FPlyte-C384sv	384	Clear	Clear	Clear	FP-BB1370	-	FP-BB1400	-
FPlyte-W384sv	384	White	White	Clear	FP-**BB1410**	-	FP-BB1440	-
FPlyte-B384sv	384	Black	Black	Clear	FP-**BB1450**	-	FP-BB1480	-
FPlyte-MCT 384 x 120µl wells microplates, for fluor-/lumin-escence reading from below or above – Minimal light Cross Talk								
FPlyte-W384	384	White	White	Clear tb	**FP**-BA8130	-	FP-BA8160	FP-BA8190
FPlyte-B384	384	Black	Black	Clear tb	**FP**-BA8170	-	FP-BA8180	FP-BA8200
1536 wells format microplates								
FPlyte 1056 x 10µl wells microplates, for fluorescence and luminescence with reading from below or above – standard								
FPlyte-C1536	1536	Clear	Clear	Clear	FP-TE6520	-	-	-
FPlyte-B1536	1536	Black	Black	Clear	**FP-TE6490**	-	-	-
FPlyte-W1536	1536	White	White	Clear	**FP-TE6480**	-	-	-

*Clear ib : clear individual bottom (see schema)
Clear tb : thin clear bottom



Note: Microplates made of standard polystyrene, for chromogenic detections, as well as polypropylene microplates for storage are available on inquire. (volumes 48µl to 7ml, 12 to 384 wells, flat or V or round shaped bottom, round or square wells)

*Color and well/matrix type:

FPlyte™ Standard microplates are used for fluorescence and luminescence applications (reading from below, or above). They have respectively black and white opaque matrix limiting individual wells, with a welded clear bottom that provide highest light transmission.

FPlyte™ NCT&MCT microplates (No or Minimal Cross Talk) should be used for demanding application, when light cross talk between wells is important to avoid. NCT have individual wells with individual clear bottoms limited by a ridge that stops any light tranfer to other wells. The result is unmatched reliability and performance in light transmission. MTC have ultra-thin bottom (0.04mm).

FPlyte™-OP microplates are used for luminescence or scintillation applications with instruments reading from above wells, have opaque wells-bottom (white, or black): FPlyte™-**BW** have white wells maximize light intensity in luminescence applications, that are inserted in a black matrix that eliminates totally light crossing between the wells. This is supplied with a lid and is individually wrapped. FPlyte™-**BB** and FPlyte™-**WW** have respectively black wells in a black matrix, and white wells in white matrix.

*Size formats:

FPlyte Plate Format	well volume (typical working vol.)	Bottom well thickness (tolerance)	Plate height	Typical use Comments
24 wells std	3.1ml	0.75mm (+/-0.2mm)	20 mm	allow the cells grown on the bottom surface to be viewed using an inverse microscope (with clear well bottom). In addition, light-emitting assays can be measured from the bottom (compatible with the Micro Beta scintillation counter from Perkin Elmer/Wallac).
96 wells std NCT	350µl (50-100-275µL)	0.75mm (+/-0.2mm)	14.7mm	This popular microplate format suit assay with microplate readers, but is also compatible with microscopy direct observation (with clear well bottom).
384 wells std	30µL (25µL)	0.75mm (+/-0.2mm)	15mm	with its higher density of wells, allows more work to be carried out in a standard sized plate, aiding higher throughput.

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SV	120µL (100µL)	0.75mm (+/-0.2mm)	15mm	designed for demanding assays (higher sample & reagent volume for higher signal, reduced well-to-well crosstalkreduced wicking)
MCT	120µL (100µL)	0.4mm (+/-0.1mm)	15mm	designed for demanding assays: smaller sample & reagent volume, minimal well-to-well crosstalk
1536 wells	10µL (10µL)	0.4mm (+/-0.07mm)	7mm	designed for very high throughput screening systems.

*Bottom well formats: (volumes indicated for the 96-well format)
● **Flat bottom** maximize volume: up 275µl working volume (well volume: 350µL) – Useful for spectrophotometric, fluorimetric and luminometric works. All FPlyte plates have flat bottomed wells, but Clear96wells plates noted with U- or V- bottomed wells.
● **V-bottom** minimize residual liquid: down 10µL working volume (well volume: 240µL)
● **U-bottom** (Round): intermediate feature – Useful for cell/particulate collection
● for 384wells format, 2 well types are available: **120µl square** wells are 3.65 x 11.65mm (high x square side), and **30µl round** wells are 3.00 x 6.50mm (high x diameter).

*Surface treatments:
FPlyte standard are natural polystyrene surface. Suits routine assay applications.
FPlyte-HiBind have wells surface treated for maximal protein binding.
FPlyte-Culture have wells treated for tissue culture (optimized cell attachment and proliferation).

Special microplates: Glass, UV clear bottomed

FPlyte™ Glass bottom microplates are used for whole-plate CCD imaging and laser detection applications, with reading from below or above. They have polystyrene upper part and a clear borosilicate glass sheet (resistant to alcohol and DMSO) fixed to the opaque microplate body with a proprietary adhesive. This process results in consistent flatness of the base and gives improved light transmission with very low autofluorescence whilst maintaining a flat optical plane for growing cells. The nominal cut-off wavelength of 335nm allows most fluorescence assays to be excited or read through the glass bottom. All plates are supplied lidded. Flat bottom semble t il; (127.6 x 85.6mm)

FPlyte™ UV clear microplates are to be used for assay chemistries which require excitation or detection wavelengths in the far UV region, below 350nm (most sensitive UV range fluorescence assays using whole-plate imaging or confocal microscopy). They have 75µm thick quartz- 220nm UV cut-off wells, that are UVtransparent with very low autofluorescence, with high degree of planar flatness, and resistance to alcohol, DMSO. COP-bottomed wells are highly chemically resistant. UVclear base is assembled using bio-compatible adhesive technology on the opaque microplate body.

	Nb of wells	Plate matrix	Well walls	Well bottom	FPLyte Glass Standard (10u) (with lid)		FPLyte Glass Sterile (10u) (with lid)	
Glass microplates								
FPlyte-Glass 24 wells plates, for whole-plate CCD imaging and laser detection applications, with reading from below or above								
FPlyte-BG24	24 round	Black	Black	Clear gl	CK6240		CK4550	-
FPlyte-WG24	24 round	White	White	Clear gl	TE7210		TE7140	-
FPlyte-Glass 96 wells plates, for whole-plate CCD imaging and laser detection applications, with reading from below or above								
FPlyte-BG96	96 round	Black	Black	Clear gl	TE7410		CK4560	-
FPlyte-WG96	96 round	White	White	Clear gl	TE7320		TE7200	-
FPlyte-Glass 384 wells plates, for whole-plate CCD imaging and laser detection applications, with reading from below or above								
FPlyte-BG384	384square	Black	Black	Clear gl	TE7260		TE7150	-
FPlyte-WG384	384square	White	White	Clear gl	TE7220		TE7150	-
	Nb of wells	Plate matrix	Well walls	Well bottom	FPLyte UV clear			
UV clear microplates								
FPlyte-UV Clear plates, for most sensitive UV range fluorescence assays using whole-plate imaging or confocal microscopy								
FPlyte-BU96	96 square	Black	Black	Clear UV	325001/1u	325011/10u	325051/50u	-
FPlyte-BU384	96 square	Black	Black	Clear UV	325002/1u	325012/10u	325052/50u	-
FPlyte-Glass 24 plates, for most sensitive UV range fluorescence assays with chemical strong resistance								
FPlyte-BK384	384square	Black	Black	Clear Cop		327001/32u		-

Choosing the correct assay plate

Choosing the correct microplate for your application can mean the difference between indifferent and great results.

There are three basic methods of obtaining useful optical data from microplate-based samples.
●The simplest and more popular method is absorbance measurement. A good **solid bright white plate** is best.
●Fluorescence measurements are preferred for greater sensitivity (up to ten times greater absorbance measurements). Choose a **solid black**.
●Luminescence measurement (certain animal and plant compounds = bioluminescence;or chemically-driven reactions = chemiluminescence). Even >10+ more sensitive than fluorescence.

Microplate readers are designed to read from either the top or the bottom of a microplate.
●Top reading instruments rely on measuring reflected light above the wells.
●Bottom reading units illuminate the sample from above and then use detectors placed below the plate to measure the absorption or fluorescence/luminescence emission. This necessitates the use of **clear-bottomed plates**.

In any cases, the requirement is to transmit the light wavelengths of interest.
●Visible wavelength range (900-350nm) measurements require only **clear plastic** bases.
●readings between 220nm and 350nm will require a UV-transparent material. This can be **Quartz sheet** or a modern polymer such as **Cyclo-Olefin Co-Polymer** (COP/COC).
●where visible range detection is combined with confocal optics or whole plate imaging which requires a very clear uniformly-flat base, **Optical glass sheet** is used.

Different plate formats are available, usually using the standard ISO size.
Simple **96-well microplates** for ELISA type assays are made from solid clear polystyrene with no additives. These are adequate for clinical and diagnostic tests, ELISA assays and any colour endpoint determination with relatively high absorbance. Typically they are available with flat well bottoms, giving high surface area, round well bottoms for good mixing or V-wells for high liquid recovery. **384 and 1536-well microplates** are used for screening applications.

Crosstalk can also be an issue in bottom-reading absorbance and fluorescence measurements, notably in screeing formats. To address this applications challenge, the Krystal 2000 zero-crosstalk plates were developed in which individual clear wells are moulded into either a white or black matrix. The black or white base material also projects down below the clear well bottom to further reduce the possibility of crosstalk.

By carefully selecting the correct plate type for the assay, it is possible to significantly improve results. By following the simple guidelines set out here, those tasked with assay development can ensure that their final assay has the best possible chance of success. The table summarizes the choices available for Assay Plate selection and indicates the plate type most likely to give the best results.

Related products/documents

Primary antibodies, Secondary antibodies (FluoProbes),
Immunologicals: Saturating agents (BSA, SeaBlock, RapidBlock), TMB solutions, UptiLight ECL substrates
Cell assays: Fluorescent Cell Probes (i.e. Fluo8 Ca+ indicator), Assay Kits (i.e. UptiBlue Viability)
IMAplates (multifunction microplates for sample handliing + assays in colorimetry, fluorimetry, luminometry)

More Products HighLights Overview, and in our BioSciences Innovations at www.interchim.eu/pp/5/life-sciences.html

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