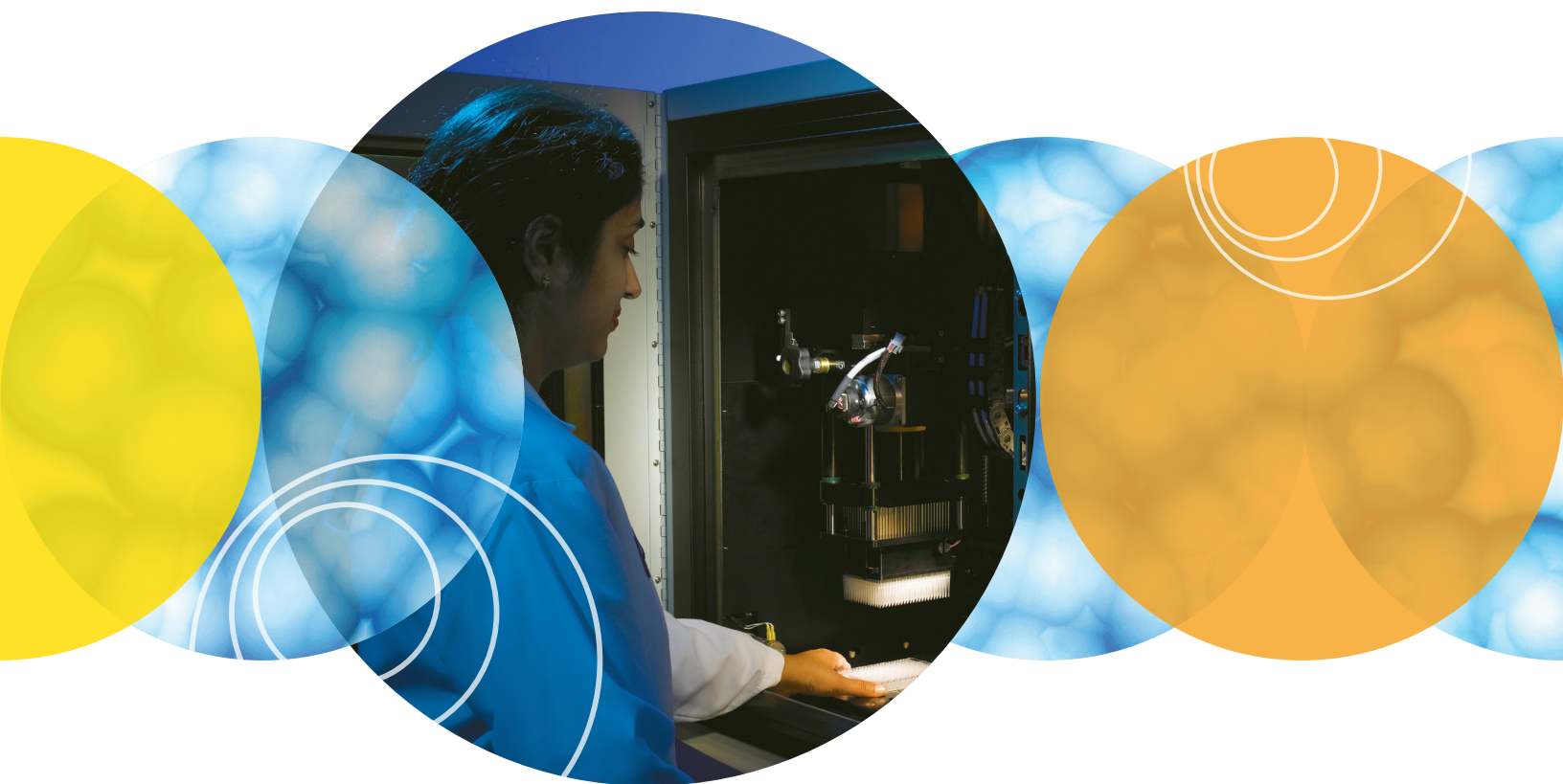


FLIPR Tetra System

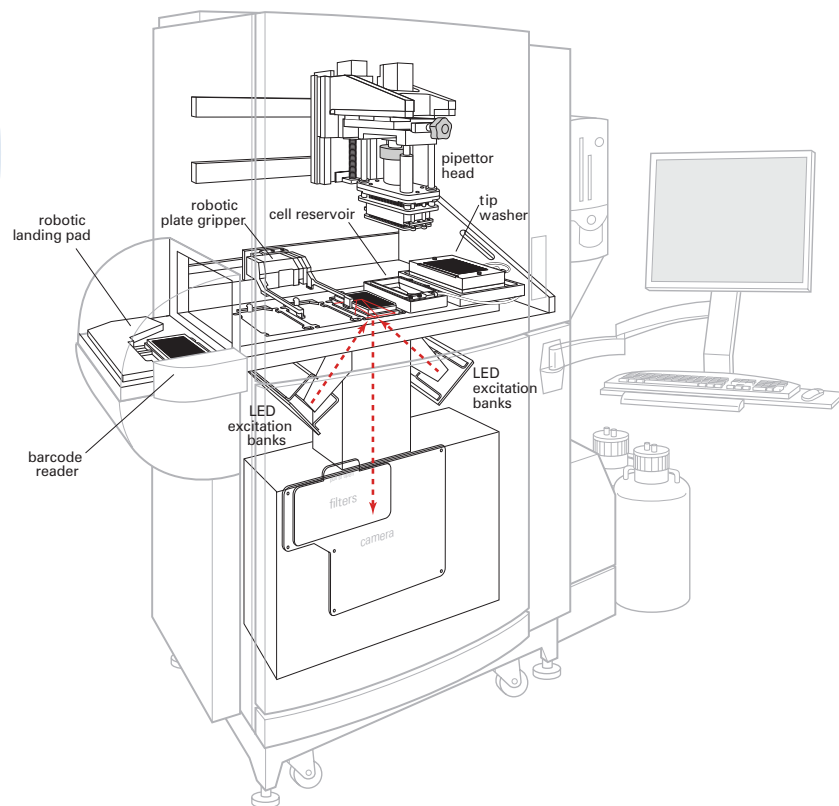


Real-time kinetic cellular assays



KEY FEATURES

- A system for cell-based screening
- Exclusive, configurable optics
- User-exchangeable 96-, 384-, and 1536-well pipettors
- Unique and uniform cell dispensing
- Intuitive, user-friendly software interface
- TetraCycler™ internal plate handler



The FLIPR Tetra® System is an industry-renowned instrument for monitoring GPCRs and ion channels.

The system provides a reliable and flexible high-throughput screening solution for identifying early leads in the drug discovery process. It is optimized for use with both fluorescent and luminescent assays including aequorin and our no-wash FLIPR® calcium and ion channel assays.

A system for cell-based screening

Flexible platform for cell-based HTS

The ability to configure instruments through varying stages of the drug discovery screening process is a challenge that requires instrument hardware flexibility and an easy-to-use software interface. We address these challenges with the FLIPR TetraSystem for kinetic cell-based screening. Since its introduction, the system has developed a reputation for reliability and ease-of-use. The system can be configured based on library size, detection mode, screening format, assay, and target, making the transition from assay development to lead optimization a seamless process.

Key system highlights include:

- Standard fluorescence or optional aequorin luminescence detection
- User-configurable 96-, 384-, and 1536-well pipettors
- User-exchangeable cell suspension option
- Unique, configurable excitation optics for expanded dye capabilities
- Intuitive, user-friendly software interface
- TetraCycler internal plate handler for accelerated throughput



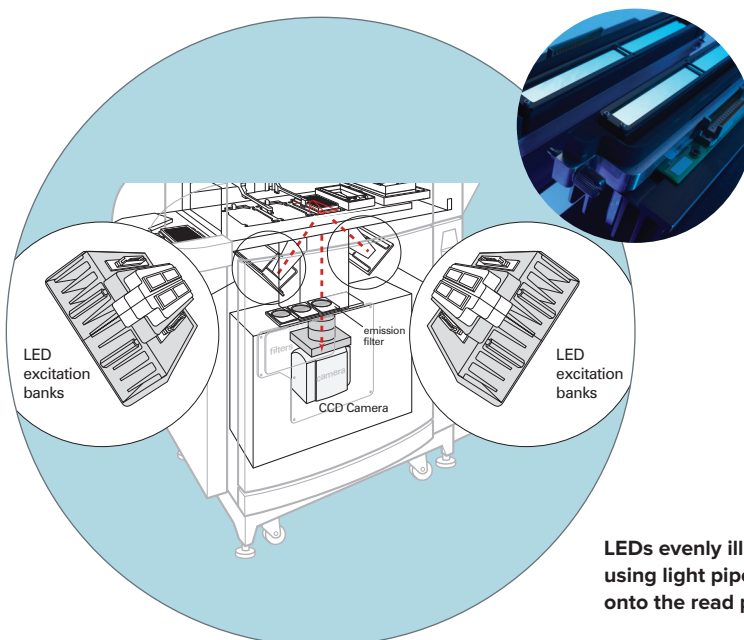
WITH THE FLIPR TETRA SYSTEM'S SLIM, VERTICAL DESIGN AND MINIMAL FACILITIES REQUIREMENTS, IT CAN BE INSTALLED IN VIRTUALLY ANY LABORATORY.

Exclusive, configurable optics

Increase assay flexibility

Two camera options—standard for fluorescence only, or aequorin for both fluorescence and luminescence—allow you to tailor the system to your needs.

The aequorin camera can be adjusted to the appropriate window to detect signals from bright fluorescence or dim luminescence assays. User-exchangeable, proven LED banks and emission filters provide the flexibility to perform experiments using dyes that are most appropriate for selected assays, whether they are single wavelength or ratiometric.

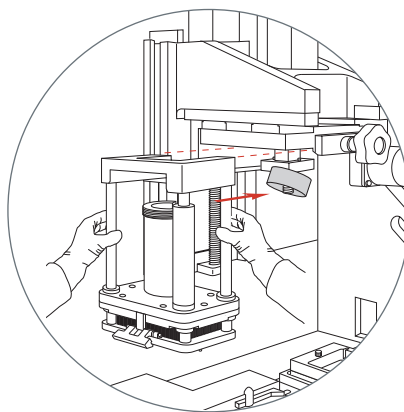


LEDs evenly illuminate plates using light pipes to direct light onto the read plate bottom.

User-exchangeable 96-, 384-, and 1536-well pipettors

Rapidly exchange pipettors

User-exchangeable pipettor heads—available in 96-, 384-, 1536-well formats, as well as pin tools in 384 and 1536 format—allow for the adjustment of screening rates based on throughput, material consumption, and assay requirements. The pipettor heads have a proven track record, with the 1536 pipettor utilizing the elastomeric positive displacement technology. Regardless of the format used, each pipettor can be exchanged by a system operator in minutes and can pipette reagents, compounds or cells.

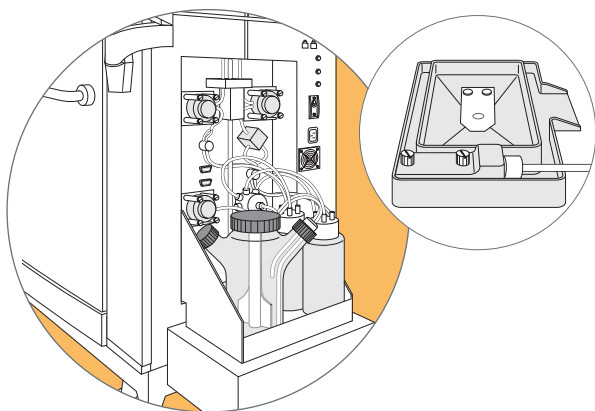


User-exchangeable pipettors are installed in minutes without tools. Pipetting accuracy and precision are assured with automatic pipettor identification and alignment.

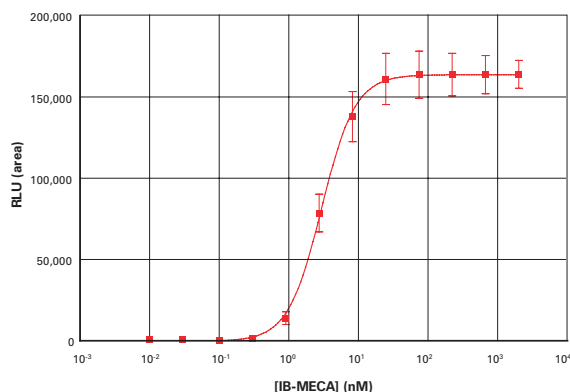
Unique and uniform cell dispensing

Deliver cells in suspension

Delivering cells in suspension is an important option that simplifies luminescence calcium mobilization assay protocols while increasing throughput. Spinner flasks maintain a uniform cell suspension to promote assay robustness. A variety of flask sizes are available to scale the volume for assay development or high-throughput screening. FLIPR pipettor heads deliver cells in up to 1536 format from the user-installable, universal cell suspension reservoir, eliminating the need for cell plating. Cell handling can be optimized for different cell lines by adjusting the stir and pump speeds and pipetting parameters through ScreenWorks® System Control Software. The cell suspension reservoir is autoclavable and user-defined protocols can include up to four wash solvents to automate system cleaning.



The cell suspension module (left) and cell suspension reservoir (right) allow users to uniformly distribute cells into the read plate via the FLIPR Tetra System's pipettor heads (96, 384, 1536). Continuous stirring keeps the cells in suspension, while flexible protocols and manual control of pump speed give room for assay optimization.



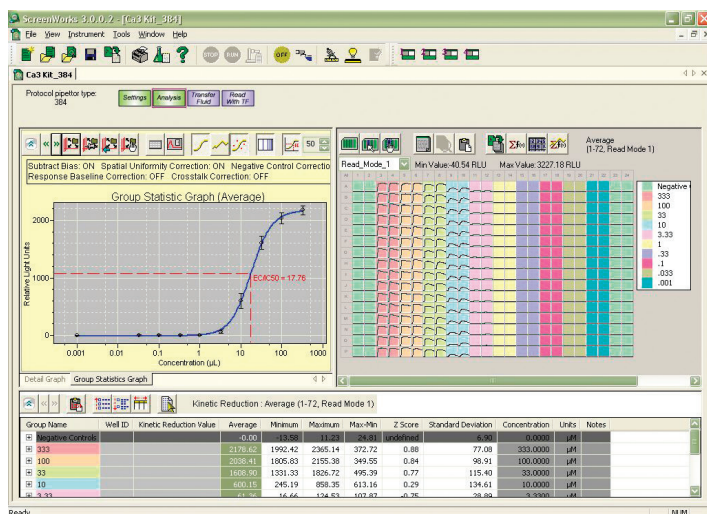
Photina CHO A3 Cells/Well IB-MECA Dose-Response in 384-Well Suspension. Photina CHO A3 cells were simultaneously pipetted in suspension 2500 cell/well in 384-well format and detected by the FLIPR Tetra System with the aequorin camera option. Cell line courtesy of Axxam SpA.

Intuitive, user-friendly software interface

Customize protocols and data processing

The FLIPR Tetra System utilizes our ScreenWorks software to define and run experimental protocols. Using a drag-and-drop interface, protocols can be easily set up to include:

- Fluorescent or luminescent read modes
- Simultaneous transfer of 96, 384, or 1536 liquid or cells in suspension
- Complex quadrant, multiple aspirations or multiple dispensing liquid handling
- Single or ratiometric kinetic cell-based reading
- Tip washing with up to two solvents
- Cell suspension delivery with automatable cleaning protocols
- Standard fluorescence or optional aequorin luminescence detection
- Simple-to-create automation protocols



User-friendly software enables easy creation of new protocols as well as gives the user access to all data at their fingertips. Analyze data in ScreenWorks software and create EC₅₀ or IC₅₀ curves with just a few clicks or set up auto export option for third party analysis.

ScreenWorks software is both flexible and user friendly. During protocol setup, only relevant options are displayed, based on the installed fluidics and optics hardware, making it easy to choose parameters that are right for each assay. Live and information-rich data in 96-, 384- or 1536-well plate format is displayed while testing. Specific wells can be grouped for analysis or data export purposes. Graphs and tables can be easily copied and pasted into documents, presentations or worksheets, and different reductions can be selected for group statistics, making results readily accessible.

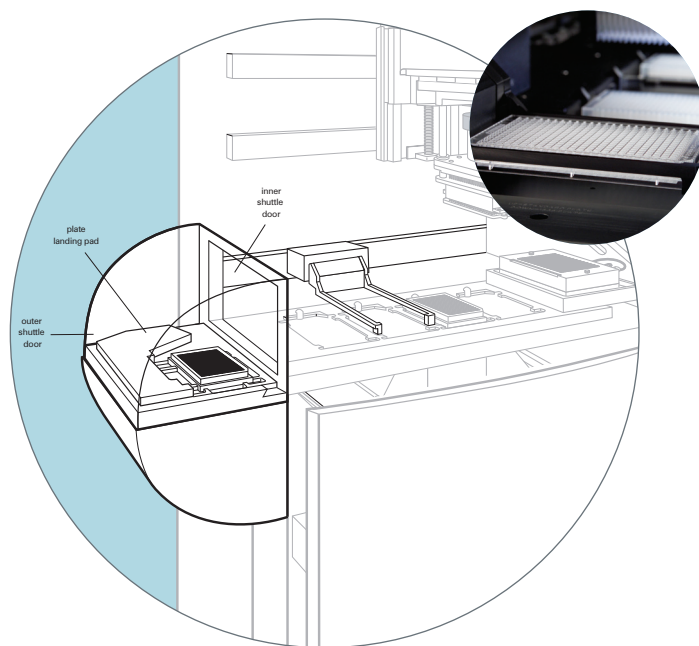


TetraCycler internal plate handler

Accelerate throughput

TetraCycler, the optional internal plate handler on the FLIPR Tetra System, exchanges microplates between the system plate stage and an external third-party plate handler. TetraCycler minimizes downtime between experiments, thus increasing throughput, by exchanging plates and tips while the experiment is in process. The TetraCycler features:

- Ability to exchange one read plate and up to 12 source plates and tips during one experiment
- Ability to run 20 read plates in one hour, including a two-minute read time and exchange of one source plate and tip rack
- Compatibility with low-profile plates using TetraCycler gripper
- Elevated instrument intelligence creates an efficient interface between the FLIPR Tetra System and the external plate handler



TetraCycler moves plates through a light-tight door during experiments, reducing downtime.

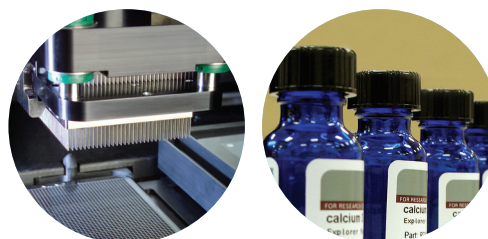
The FLIPR Tetra System is just one example of innovative, high-performance products that significantly enhances research productivity and effectiveness. Designed expressly to meet the needs of research professionals in drug discovery and other advanced research, it delivers the industry-leading capabilities required for accelerating time to market for new products.

Ordering Information	
FLIPR Tetra Base System • Heated stage • Calcium optics kit • Computer with Windows XP • 1-year warranty (after installation)	
Cameras	Part number
Standard Camera, EMCCD (fluorescence)	0310-5147
Aequorin Camera, ICCD (fluorescence and luminescence)	0310-5148
Pipettor Heads	
96-well Pipettor Head Kit	0200-6071
384-well Pipettor Head Kit	0200-6072
1536-well Pipettor Head Kit	0200-6073
384- and 1536-well Pin Tool Heads (custom configurations)	
Optics*	
Calcium Optics Kit	0200-6206
Membrane Potential Optics Kit	0200-6207
Voltage Sensor Probes Optics Kit	0200-6208
Aequorin Camera Option Kit (field conversion from EMCCD to ICCD)	0310-5285

*For additional excitation and emission optics, contact the Molecular Devices Customer Service department.

For more information about the FLIPR Tetra System, reagent kits, and accessories, contact your Molecular Devices representative or visit our website at www.moleculardevices.com.

Other Options	Part number
Cell Suspension for FLIPR Tetra System	0310-5305
TetraCycler	FLIPR TETRA CYCLER+
SynchroMax™ ET Plate Handling System	0200-6147
96-well Pipette Tips, Clear (50 racks/case)	9000-0761
96-well Pipette Tips, Black (50 racks/case)	9000-0762
384-well Pipette Tips, Clear (50 racks/case)	9000-0763
384-well Pipette Tips, Black (50 racks/case)	9000-0764
FLIPR Tetra 1536 Tip Block	0200-6112
FLIPR Tetra 1536 Tip Gasket (40 gaskets/case)	9000-0746



Consumables



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