



Permeabilized Myocyte Test System 1600A



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Reliable and repeatable test system for measuring passive and active properties of permeabilized myocytes.

The 1600A permeabilized myocyte test system is engineered to be a reliable setup for testing the contractile properties of skinned myocytes. A large cell mounting area provides ample room for cell attachment. In addition, push-button controlled motorized stages simplify cell attachment to the high-speed length controller (315D) or piezo length controller (340A) and precision force transducer (400C series).

A temperature controlled 8-well bath plate allows for seamless transition of the myocyte between varying calcium concentrations. Direct mounting on an inverted microscope stage allows for observation and sarcomere spacing detection. Furthermore, an optional prism reticule can be included to provide accurate measurement of cell depth.

Researchers experience ease of use and repeatability with the 1600A: force, length and sarcomere spacing (with optional HVSL) can all be controlled and measured. This ability permits measurement of simple force-pCa to more complex mechanical characterization of the cell including kTR, length-tension, force-velocity and stiffness.

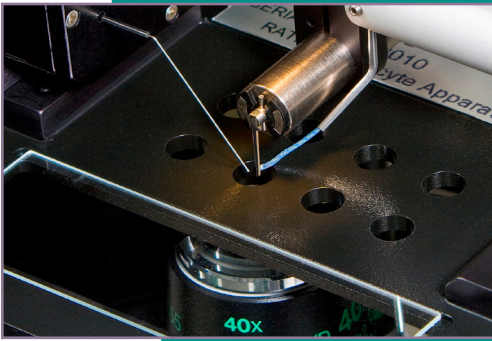
The system is truly turn-key, including components for data acquisition and analysis. Conveniently, the Digital Controller and Software Analysis package (600A) comes complete with a large library of standardized protocols to make the above characterizations straightforward. Choose the 1600A system for performance, precision and progress.

System Components

- 315D** High-Speed Length Controller
- 400C** Force Transducer
- 600A** Complete Data Acquisition and Digital Controller System
- 803B** Permeabilized Myocyte Test Apparatus
- 820A** Dual XYZ Motion Controller

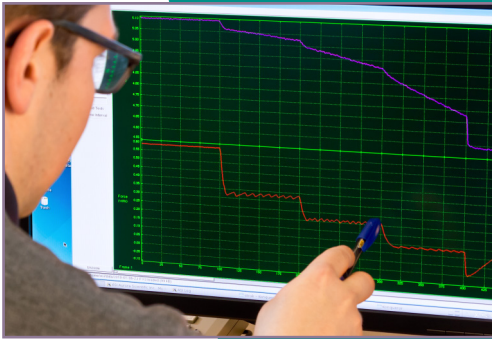
Features

- Complete test system for permeabilized myocytes
- Temperature controlled 8-well bath plate
- Simple mounting to an inverted microscope
- Control and measure force, length and sarcomere spacing with optional 901D HVSL
- Large cell mounting area & motorized, computer-controlled XYZ micro-positioning stages
- Measure force-pCa, kTR, stiffness, length-tension and force-velocity relationships
- Optional optical prism for measurement of cell depth



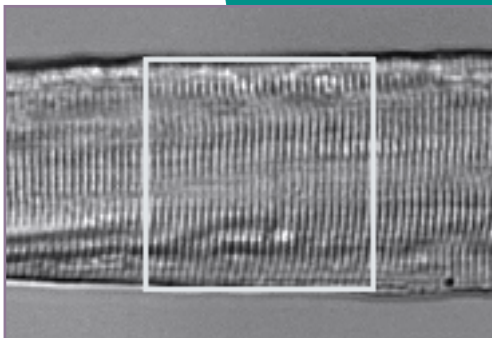
8 Well Plate for Simple pCa Measurement

Performing a force-pCa experiment is simple with our temperature controlled 8 well plate. Simply use the stage controls to quickly move from one well to another. A large cell mounting area is provided in front of the wells.



Powerful Software with Standard Protocols

The software's protocol library includes a variety of experiments for single fiber studies, with easy to use applets for adjusting system settings. Powerful, pre-written functions allow you to add your own custom protocols as well to streamline system operation with multiple lab members.



Integrate with Sarcomere Length

Setting your resting sarcomere length accurately becomes trivial when pairing the 1600A with our 901D High-Speed Video Sarcomere Length Software. The high frame rate camera synchronizes with the data acquisition software enabling force, fiber length and SL to be collected in real time in a single, time-synchronized file.



Easily Mounts to an Inverted Microscope

The 1600A apparatus easily mounts to the stage of your inverted microscope. Convenient motorized XYZ stages are provided that hold the force transducer and length controller.



Friendly and Reliable Support

We stand by our products and by our customers. We can provide complete onsite installation, full service training and detailed instruction regarding software controls. As your partner in research we do all we can to ensure your studies stay on track and deliver the data you need.



Select Publications

Myosin-binding protein C regulates the sarcomere lattice and stabilizes the OFF states of myosin heads.

Hessel, Anthony L et al. *Nat Commun.* (2024) 15.1: 2628. PMID: 38521794

Leiomodoin 2 neonatal dilated cardiomyopathy mutation results in altered actin gene signatures and cardiomyocyte dysfunction.

Iwanski, Jessica B et al. *NPJ Regen Med.*(2024) 9.1: 21. PMID: 39285234

Protein Kinase D Plays a Crucial Role in Maintaining Cardiac Homeostasis by Regulating Post-Translational Modifications of Myofilament Proteins.

Herwig, Melissa et al. (2024) 25.5: 2790. PMID: 38474037

Developmental nicotine exposure alters cardiovascular structure and function in neonatal and juvenile rats.

Emily G Flanigan et al. *Am J Physiol Heart Circ Physiol.* (2024) 327.6: H1442-H1454. PMID: 39453426

The carbon monoxide prodrug oCom-21 increases Ca²⁺ sensitivity of the cardiac myofilament.

Payne, Fergus M. *Physiol Rep.* (2024) 12.6: e15974. PMID: 38491822

Myofilament Alterations Associated with Human R14del-Phospholamban Cardiomyopathy.

Kumar, Mohit et al. *Int J Mol Sci.* (2023) 24.3: 2675. PMID: 36768995

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