SIH LTMT Muscle Tester

Long term culture/incubation muscle research system

The Long term incubation muscle research system is primarily designed for studies where the effect of a mechanical, biological or other intervention is monitored over time. Its primary use is intact living muscle preparations. It combines the versatility of the rugged and stable force transducer of the KG series with fast and sensitive force measurements.

It features a completely closed, heat-controlled, sterilize-able incubation cuvette system. All parts that come into contact with the incubation medium may be sterilized at 140°C. The cuvette has a small volume (approximately 1ml) and an integrated magnetic stirrer which provides an optimal oxygen supply. The cuvette solution may be changed without even opening the cuvette system.

Options for this system include field stimulation electrodes, a stimulator (WPI #**STIM**), a tetanizer (WPI #**TET**) and a photometer (WPI #**FURA**). For complete instrument control with your own data acquisition system and software, add the SI-H Motor Action Control Panel hardware (WPI #**MACP**). Or, add the SI-H integrated data acquisition package (WPI #**DAS**/**MuscleData**) to control all the hardware and record to data and optical recordings.

Features

- Mechanically stable platform for combining mechanical & simple optical muscle studies
- Sophisticated cuvette system
- Fiber length precisely adjustable with micrometers on both sides
- Special preparation holder available for papillary muscle, trabeculae, skeletal and smooth muscle
- Heat control between 30-42°C
- Linear motor for muscle length perturbation studies included

Heidelberg
A World Precision Instruments Company

World Precision Instruments, Inc.

SIH LTMT Muscle Tester

Long term culture/incubation muscle research system

Key Experiments

- Measure intact muscle responses to electrical stimulation or tetanus. Measure myomechanical properties of contracting and relaxing muscle strips. An ergometer (WPI #**ERG**) can be used to perform after-loaded contractions in heart muscle and to perform eccentric contractions.
- Twitch amplitude and kinetics analysis, time to peak, (50%) relaxation velocities, starling curve and diastolic force development can be monitored with SI-H MuscleData software.
- A linear motor with control units can be adapted to measure mechanical muscle properties like slack-test, isotonic release, constant velocity release, stretch release, vibration, eccentric and after-loaded contractions (intact muscle).

Accessories

DAS Data acquisition/analysis system that can control the stimulator and all length devices. Includes MuscleData software.

ERG Ergometer unit for after loaded contractions (for example, heart muscle)

FURA Photomultiplier for the microscope to allow intracellular calcium studies

LCPERF Laser controlled perfusion system for highly accurate low force measurements

MACP Motor Action Control Panel for motor control when using your own data acquisition system

STIM Standalone stimulator, analog or digital control, ±45V, mono/bipolar

TET Tetanizer converts a single stimulus from the stimulator into a train of stimuli

Complete SI-H systems are assembled from a large variety of custom components and made to order. Call our staff physiologist to discuss the many options for your experimental needs.

Heidelberg
A World Precision Instruments Company
www.si-heidelberg.com

World Precision Instruments, Inc.

USA: International Trade Center, 175 Sarasota Center Boulevard, Sarasota FL 34240-9258 USA
Tel: 941-371-1003 • **Fax:** 941-377-5428 • **E-mail:** info@wpiinc.com • **Internet:** http://www.wpiinc.com
Germany: Zossener Str. 55, 10961 Berlin, Germany • Tel: 030-6188845 • Fax: 030-6188670 • E-mail: wpide@wpi-europe.com
China & Hong Kong: WPI Shanghai Trading Co., Ltd. • Tel: +86 688 85517 • E-mail: ChinaSales@china.wpiinc.com
UK: Astonbury Farm Business Centre • Aston, Stevenage, Hertfordshire SG2 7EG England • Tel: 01438-880025 • E-mail: wpiuk@wpi-europe.com