



Whole Animal Muscle Test System

1300A | 1305A | 1310A



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A flexible test system that delivers accurate measurement of rodent muscle properties *in situ*, *in vivo* and *in vitro*.

The 1300A and 1305A are high performing, precise test systems that provide researchers a simple method to test tensile and other mechanical properties of muscle.

By combining *in situ*, *in vivo*, and *in vitro* muscle tests using one simple platform researchers are able to capture a complete picture of muscle physiology in rodent subjects. The test systems come with either a mouse or rat apparatus, complete with temperature controlled animal and limb plate designed to support and fix the animal and limb being tested. In addition, the system can be converted to an isolated (*in vitro*) muscle test system with the attachment of an optional 25mL bath. Aurora Scientific's flagship dual-mode lever system is also included permitting measurement and control of both force and length.

Conveniently, muscle samples are attached at only one point to measure force and length saving time and increasing productivity. Furthermore, this system includes our high-power, bi-phasic stimulator and all required electrodes.

Control and analysis software comes pre-loaded on a custom PC for the researcher. Experimental setup, data collection and data analysis can all be done in a matter of minutes with our control and analysis software (DMC/DMA). Parameters such as resting length, resting force, stimulation and the actual test protocol are all set using the control software. An extensive library of standard experimental protocols such as twitch, tetanus, fatigue, force-frequency, force-velocity, stiffness and work loops are provided with the system.

System Components

300C/305C - Dual-Mode Muscle Lever System (with foot plate)

605A - Complete Data Acquisition and Digital Controller System

809B/806D - Mouse or Rat *in situ* Muscle Apparatus

701C - High-Power, Bi-Phase Stimulator

Features

Powerful 3-in-1 design: save time and space while increasing productivity

High experimental throughput

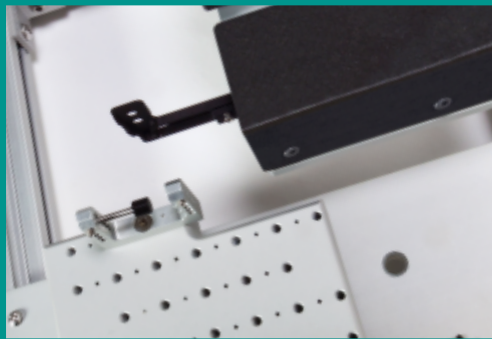
Fast data acquisition and analysis software for Windows

Dual purpose field/nerve stimulator

Ideal for live animal protocols: precision platform with temperature control

Convenience of one test system capable of studying both mice and rats

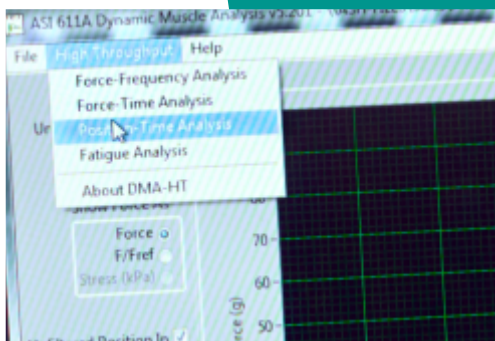
Range of peak forces from 0.5N to 10N



Tell The Whole Story – Live Animal & Isolated Tissue in One

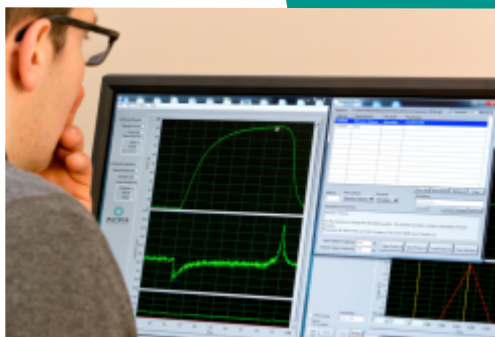
The three system configurations allow the researcher to work with a broad range of muscle types and provide a convenient platform for compound screening, phenotype evaluation, and comparison of murine models; all within one system.

Above: precision force transducer for *in situ* tests (left), force transducer with foot plate for *in vivo* tests (middle), and 25mL horizontal bath for *in vitro* tests (right).



High Throughput Software Capability

Experience high-throughput data analysis, including batch processing and multi-parameter calculations for hundreds of muscle samples within minutes. Downstream analysis can be completed within Aurora Scientific DMA/DMC software or exported to your analysis program of choice.



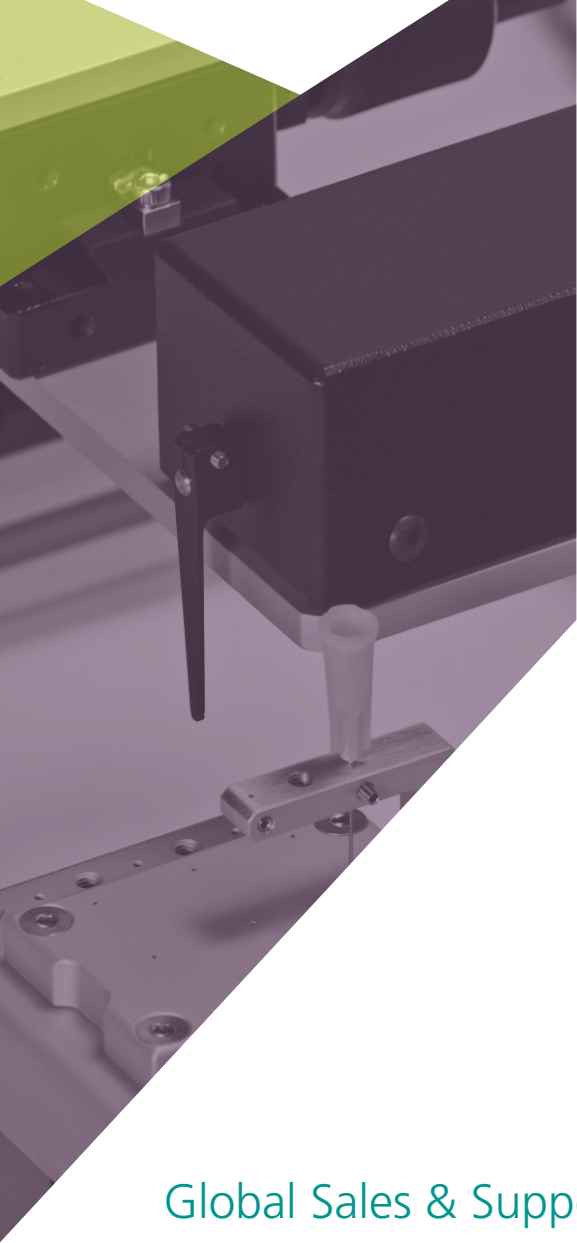
Standard Protocol Library

The protocol library includes a variety of muscle experiments for whole animal studies. Protocols include system operation and data acquisition settings optimized for sample type and measurement needs. Add your own custom protocols as well to streamline system operation with multiple lab members.



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

Xin-deficient mice display myopathy, impaired contractility, attenuated muscle repair and altered satellite cell functionality.

Al-Sajee, Dhuha, et al. *Acta Physiologica* (2015) PMID: 25582411

Resistance Loading and Signaling Assays for Oxidative Stress in Rodent Skeletal Muscle.

Alway, Stephen E., and Robert G. Cutlip. *Methods Mol Biol.* 2012;798: 185-211. PMID: 22130838

Neuromuscular electrical stimulation as a method to maximize the beneficial effects of muscle stem cells transplanted into dystrophic skeletal muscle.

Distefano G, Ferrari RJ, et al. *PLoS One.* 2013; 8(3):e54922. PMID: 23526927

Single muscle contractile measurements in vivo and in situ.

Jachinta Rooney and Rich Lovering, SOP: MDC1A_M.2.2.002, (2015)

Global Sales & Support Offices

Americas, Middle East, Africa

Aurora Scientific Incorporated
25 Industry Street,
Aurora, ON, Canada
L4G 1X6

Tel: +1-905-727-5161
Toll free (NA): +1-877-878-4784
Fax: +1-905-713-6882

Europe

Aurora Scientific Europe
Landscape House
Landscape Road, Churchtown
Dublin, D14A6P3
Ireland

Tel: +353-1-525-3300
Fax: +353-1-443-0784

Asia, Australia, New Zealand

Aurora Scientific Asia
Unit B, 10/F., Charmhill Centre
50 Hillwood Road
Tsimshatsui, Kowloon, HK

Tel: +852-3188-9946
Fax: +852-2724-2633

Distributor

Japan

Kantoh Electronics Co., Ltd.
1-25-14, Nakacho, Meguro-ku
Tokyo, 153-0065,
Japan

Tel: +81-03-5773-5028
Fax: +81-03-5773-5029

Global Email: info@AuroraScientific.com

info@Kantoh-elec.co.jp
www.kantoh-elec.co.jp