



# 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, 1305A and 1310A 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.

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## System Components

**300E/305E/310E** - Dual-Mode Muscle Lever System (with foot plate)

**605A** - Complete Data Acquisition and Analysis System

**701C** - High-Power, Bi-Phasic Stimulator

**809C/806D/807B** - Mouse, Rat or Rabbit *in-vivo* Apparatus

**827A** - Water Heater/Circulator

## Features

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

Ideal for live animal protocols: precision platform with temperature control

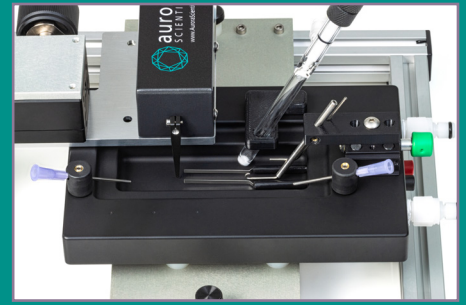
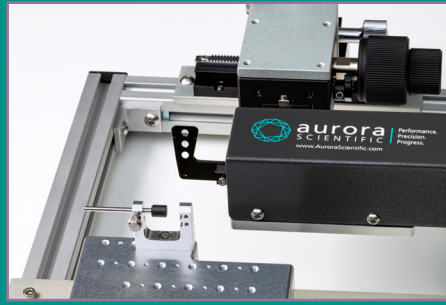
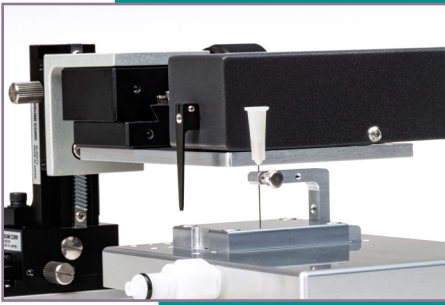
Fast data acquisition and analysis software for Windows

High experimental throughput

Dual purpose field/nerve stimulator

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

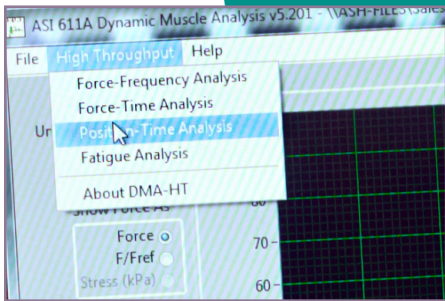
Range of peak forces from 0.5N to 100N



## Tell The Whole Story: Live Animal & Isolated Tissue in One

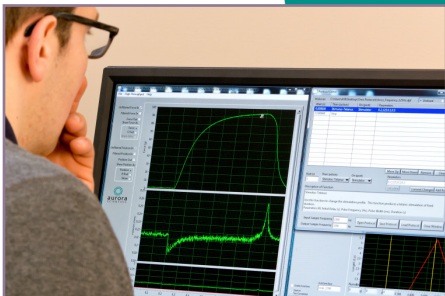
The three system configurations allow the researcher to work with a broad range of muscle types and provide a convenient platform for compound screening, phenotype evaluation, and comparison of murine models; all within one system.

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).



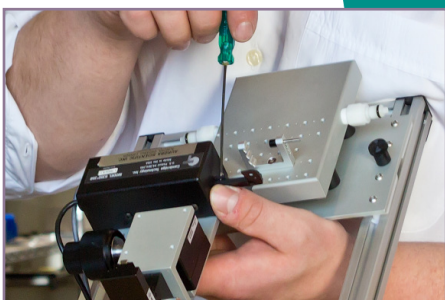
## High Throughput Software Capability

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

Muscle weakness and mitochondrial stress occur before severe metastasis in a novel mouse model of ovarian cancer cachexia.

Delfinis, Luca J. et al. Mol Metab. (2024) 86:101976.PMID: 38925248

Organoid culture promotes dedifferentiation of mouse myoblasts into stem cells capable of complete muscle regeneration.

Price, F.D., Matyas, M.N., Gehrke, A.R. et al. Nat Biotechnol (2024). PMID: 39261590

Stuart has got the PoWeR! Skeletal muscle adaptations to a novel heavy progressive weighted wheel running exercise model in C57BL/6 mice.

Koopmans, Pieter J, et al. Exp Physiol. (2024)109.2:271-282. PMID: 37974360.

Systemic delivery of full-length dystrophin in Duchenne muscular dystrophy mice.

Zhou, Yuan. et al. Nat Commun. (2024) 15.1:6141. PMID: 39034316

Transcriptional programming of translation by BCL6 controls skeletal muscle proteostasis.

Ramachandran, Krithika et al.. Nat Metab. (2024) 6.2:304-322. PMID: 38337096

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