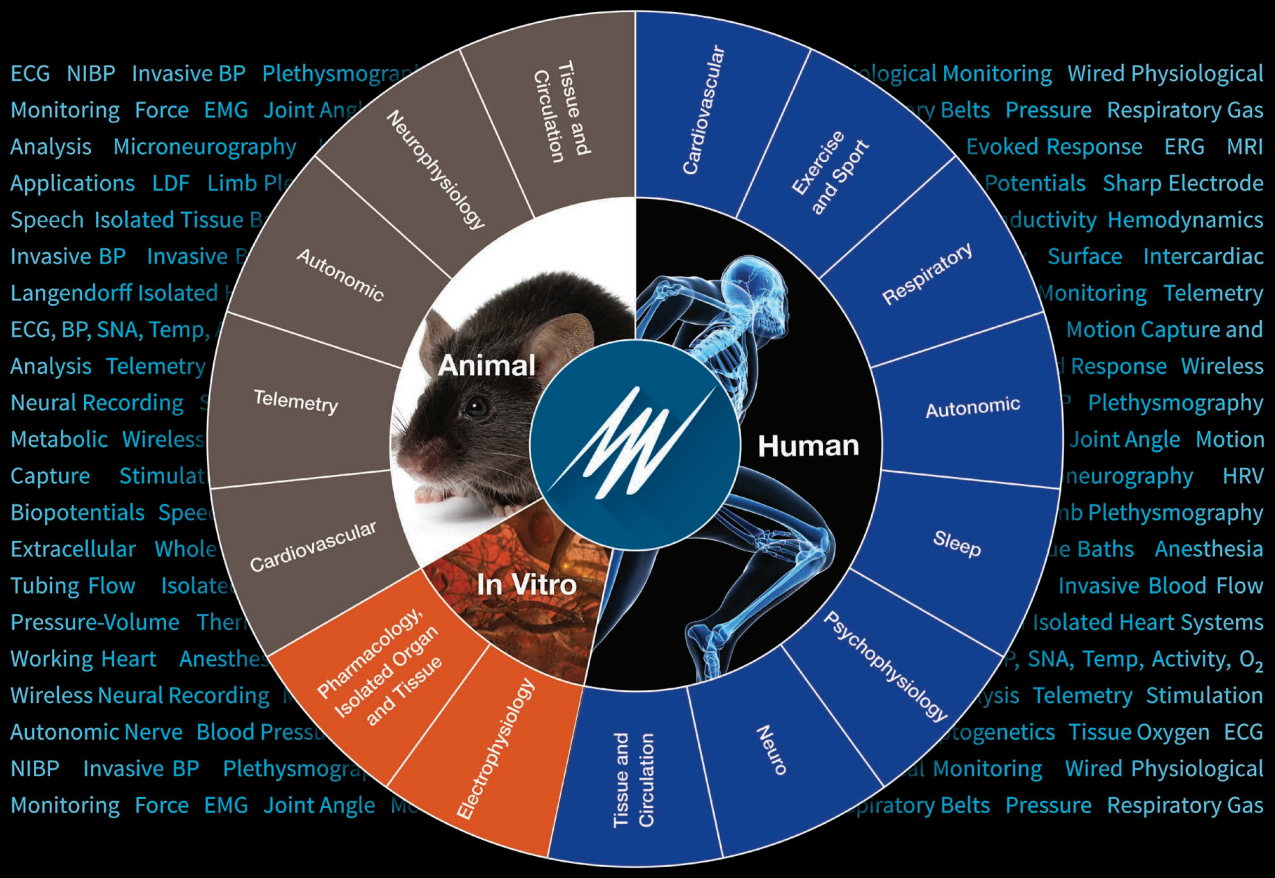
ADINSTRUMENTS
making science easier

Research Systems Overview

Integrated solutions to advance life science research



Flexible, all-in-one solutions designed to support a wide range of research applications and able to grow as your research requirements change.

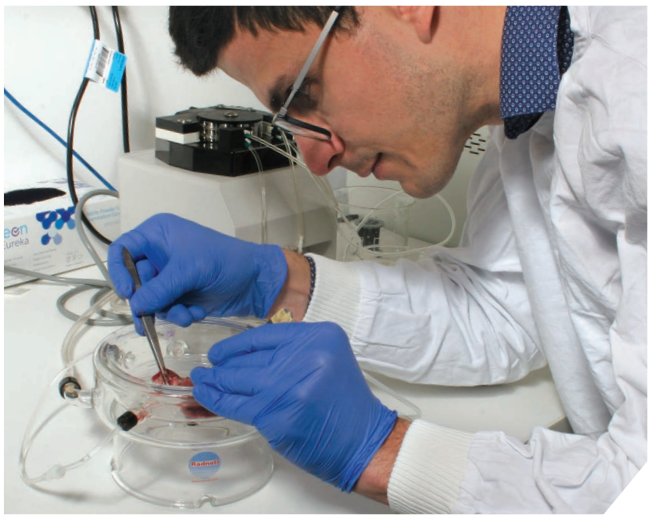
Whatever signals you want to measure, an ADInstruments system can be customized to record, display and analyze your experimental data with ease and accuracy - giving you the freedom to innovate.

All your analysis in one place

Designed for life sciences, our LabChart analysis software options are at the heart of all our research solutions and act as platforms to integrate all your data streams into one place. LabChart 8 is powerful and easy to use and offers a wide range of specialist modules to streamline your research. LabChart Lightning offers the next level of flexibility for your research with unlimited channels, signal overlays, cross-recording analysis and custom calculations.

Customize your own solution

Choose from our complete systems, or tailor a unique solution for your research requirements through pairing your choice of LabChart software with a wide range of products and accessories. Our dedicated team can help you design a system to fit your needs.



Extend your studies

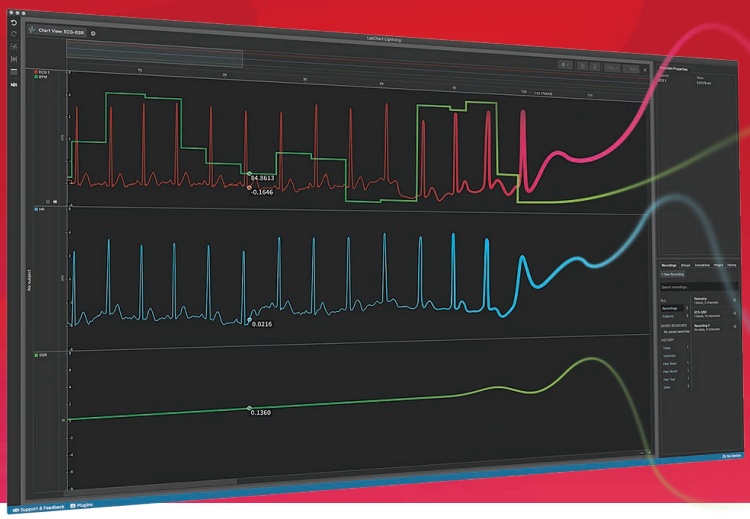
ADInstruments solutions provide the flexibility to extend your studies across many human, animal or *in vitro* applications.

Take advantage of global support

When your research takes you places, we are there to help. Our global network of offices and distributors covers more than 80 countries, offering specialist support, technical advice, and a range of workshops and training courses.

LabChart LIGHTNING

Data acquisition and analysis re-imagined



LabChart Lightning is the latest iteration of our 34 year history of creating easy to use data acquisition and analysis software. LabChart Lightning empowers innovative researchers to make unique scientific discoveries with unlimited freedom and flexibility.

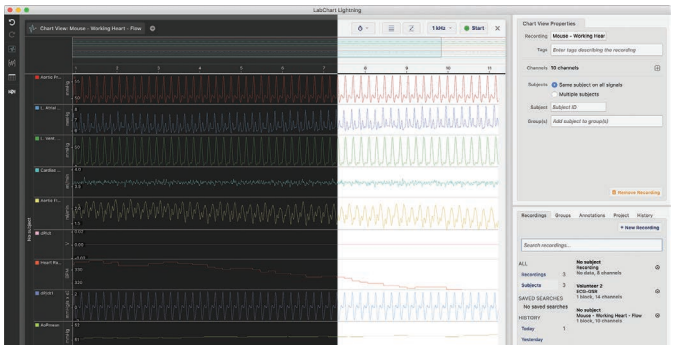
Unlimited Channels and Overlays

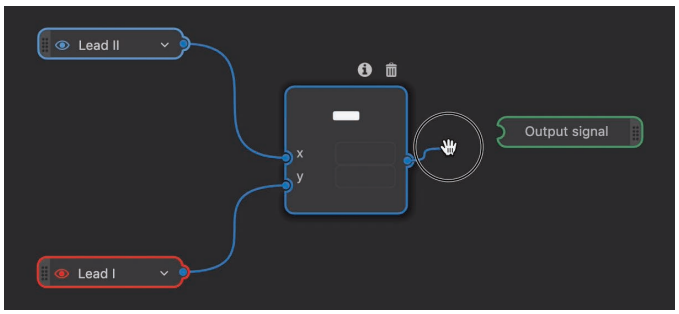
Record data into an unlimited number of channels. Create as many calculated signals as you like. Overlay signals by dragging and dropping them between channels.

Overlay channels with drag and drop.

Dark View and Light View

Switch between dark view and light view to help reduce eye strain and for research applications where controlled lighting is important.





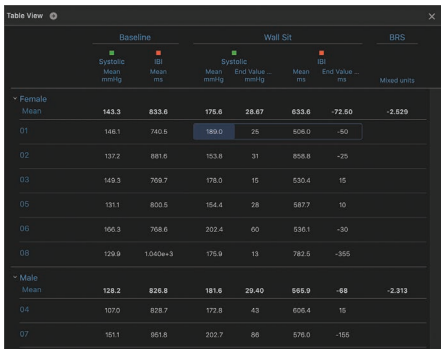
Custom Calculations

Create custom calculations by dragging and dropping functions from our extensive function library. See the effect of custom calculations on your original data. Optimize and share your calculations with colleagues.

Cross-Recording Analysis

Analyze data across multiple recordings within a project. Organize recordings and channels by subjects or groups. Convert time-based data from recordings to discrete values to use in statistical analysis.

Organize data by groups and subjects and assign group data by regions.



More Features

- Cross Platform
- Readouts
- PowerLab integration
- User based licensing
- Import / export
- History and autosave
- Data tagging annotations and regions

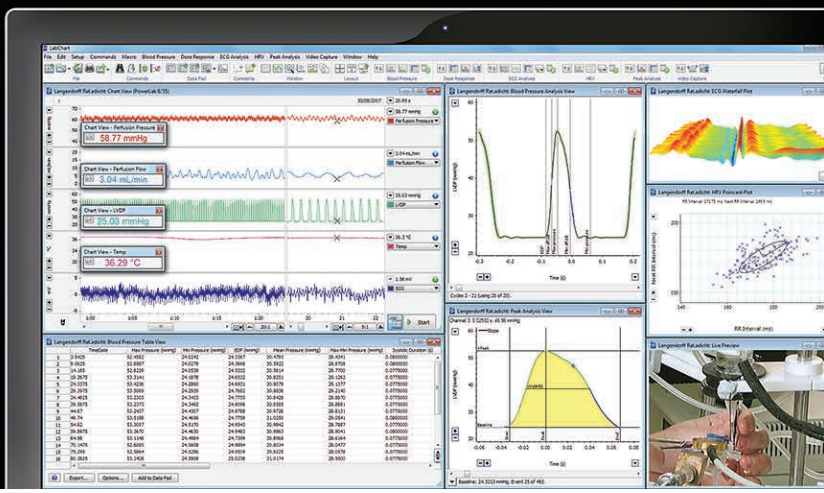
Third-Party Device Integration

LabChart Lightning enables the integration of multiple devices for data acquisition and analysis. Device manufacturers can follow our SDK available on GitHub to create a TypeScript plugin for their device to sample directly into LabChart Lightning. There is also the option of customized scripts, comments, and UI for device configuration and control. This flexibility provides researchers an avenue for limitless combinations of data, signals, and results!

Sign up for a 30-day free trial at adi.to/lightning

LabChart

All your analysis in one place



Easily develop an integrated and customized set-up for your unique research requirements.

LabChart data analysis software creates a platform for all your recording devices to work together, allowing you to acquire biological signals from multiple sources simultaneously and apply advanced calculations and plots as your experiments unfold.

With LabChart analysis software, you can record and display up to 32 channels of data in real-time, performing online calculations at high sampling rates, giving you full control of your research.

Simple to use

- Pre-configured settings files for one-touch recording
- Change recording settings in seconds
- Recall data and experimental settings
- Annotate data with comments
- Smart detection of ADI peripheral devices

Customize your workflow

- Scripting and automation
- Custom arithmetic
- Import/export data in various formats
- Manual or event-driven sampling
- Generate customized stimulus outputs

Feature rich

- Wide range of sophisticated add-ons purpose built for life science
  - Extensions eg. Spirometry
  - Modules
  - Device enablers
- Record from multiple PowerLabs or from LabChart compatible devices

Specialized analysis with Add-On modules

Get the full suite of modules with LabChart Pro *(Some modules are not available on Mac)*.
The range includes:

Cardiac Output	Calculates cardiac output from a LabChart recording of a thermodilution curve measured in animals
Metabolic	Provides real-time measurements of parameters such as VCO_2, VO_2, V_E and RER
Blood Pressure	Automatically detects, analyzes and reports parameters from arterial or ventricular pressure recordings
Spike Histogram	Detects, discriminates and analyzes extracellular spike activity generating a range of plots and statistics
ECG Analysis	Detects and reports the onset, amplitude and interval times of PQRST from human and animal ECG signals

Dose Response	Generates dose response curves, EC50 values and additional parameters
Heart Rate Variability	Displays and analyzes variation in the interval between heartbeats in human and animal ECG
Video Capture	Allows the synchronized recording and playback of a QuickTime movie and LabChart data file
Peak Analysis	Automatic detection and analysis of multiple, non-overlapping peaks in recorded waveforms
DMT Normalization	Calculates and standardizes optimal vessel pretension conditions using the wire myograph
PV Loop	Analyzes left and right ventricular pressure and volume data, calculates loop area and a wide range of hemodynamic parameters.

Hardware Compatibility

LabChart can be used with any ADInstruments PowerLab to sample and analyze data from virtually any analog signal. As well as this, LabChart can also stream data directly from a range of compatible digital and wireless devices. These are available from manufacturers such as DSI, Oxford, DMT, Equivital, Delsys and Kent.

Find out more at adi.to/labchart

PowerLab

High-performance data acquisition hardware

PowerLabs are capable of high speed sampling and are compatible with instruments, signal conditioners, and transducers supplied by ADInstruments and many other leading brands.

Developed in 1985, PowerLab has been a reliable data acquisition tool for an entire generation of scientists and educators. It has always offered a simple and flexible solution for almost all types of analog physiological data acquisition. With the addition of PowerLab C for research, we are excited to continue supporting a whole new generation of scientists with unparalleled flexibility for both analog and digital data acquisition.

PowerLab C and C Series Interfaces

PowerLab C is a digital data acquisition device that provides adaptive mains filtering, power management for peripheral devices (max 100W via USB-PD) and sub-µS time synchronization for up to four C Series compatible USB-C devices.

Front End Interface

Converts analog data from ADInstruments Front-Ends such as Bridge Amps and Bio Amps so that they can be digitally sampled by the PowerLab C.

Instrument Interface

Provides 4 channels of input capability from any analog instrument to PowerLab C.

Configuration Options

Both C Series interfaces are designed to work with PowerLab C for adaptive mains filtering and sub-µS time synchronization with other C Series compatible devices. Alternatively, for simple setup requirements, you can connect them directly to a computer.

Modular system

Powerful and portable

Analog compatible

Digital framework for the future

26 Series PowerLabs

Highly functional and adaptable for even the most demanding of applications, there is a research PowerLab to suit your requirements. Available in 2 and 4 channels, PowerLab can sample from virtually any analog signal.

PowerLab 2/26
PL2602

For those who require minimal channels the 2/26 is an ideal entry option. Maximum sampling rate of 100 kHz per channel. Independent ADCs for each channel to keep data perfectly in sync.

PowerLab 4/26
PL2604

Our entry level research grade DAQ system, the 4/26 provides 4 analog input channels and has a maximum sampling rate of 100 kHz per channel. Independent ADCs for each channel to keep data perfectly in sync.

Find out more at adi.to/powerlab

HUMAN

Human Applications

Complete systems by research application

Wireless EMG in humans

Wireless EMG is ideal for recording muscle tissue contractions and electrical muscle activity in subjects, especially when range of movement and comfort are important. Applicable for tracking a range of movements, e.g. exercise physiology, or 'on the spot' applications when small, difficult to isolate muscles are being assessed.

Delsys Trigno™ Wireless Foundation System

This LabChart compatible system allows your EMG data (up to 16 sensors) to stream directly into LabChart with the click of a button. You can then choose from a range of Trigno™ wireless sensors to complete your solution (sold separately).

Contents include:

- 1 x Trigno™ Base Station Receiver (Digital)
- 1 x USB Cable
- 1 x Trigno™ PowerSupply with Plug Adapter Kit
- 2 x Trigno™ Sensor Adhesive (4-slot, 90 pack)
- LabChart Pro Software
- Trigno™ Wireless Device Enabler Software

Sensor options include:

- Trigno Avanti EMG + IMU
- Trigno Mini EMG + IMU
- Trigno Snap-Lead EMG + IMU
- Trigno EKG
- Trigno 4 Contact FSR
- Trigno Quattro
- Trigno Goniometer Adapter
- Trigno Load Cell Adapter

Trigno Base Station, shown with 16 Trigno sensors *(purchased separately).*

Trigno Avanti EMG + IMU Sensor *- for flexible motion detection.*

Trigno Mini EMG + XYZ Sensor *- for isolating small muscles.*

Trigno Snap-Lead EMG + XYZ Sensor *- with clamp style connector leads.*

Respiratory / Metabolic

Record cardiorespiratory and metabolic parameters by simultaneously measuring respiratory gas concentrations and airflow either at rest or during exercise.

In conjunction with the complete system shown, you can integrate any of our other systems and devices for even more flexibility in your research.

Exercise Physiology System

A complete physiology recording system for respiratory/metabolic studies. Monitor and calculate parameters such as RR, volume and flow rates, VCO_2, VO_2, VE, RER, intrathoracic pressure and lung sounds with the BP, HRV, Metabolic and ECG Analysis modules available in LabChart.

HUMAN

Wireless physiological monitoring in humans

Wireless monitoring allows you to record a wide range of signal types simultaneously whilst providing freedom of movement for your subjects, ensuring you are observing realistic human activity in your research.

Equivital Wireless Physiological Systems

Record a range of signals via a compact and unobtrusive sensor belt plus ancillary options. A long battery life and comfortable design support long sampling periods, and with both live data streaming and access to offline data logging in LabChart for single or multiple subjects - it's the perfect solution for exercise research through to sleep studies. Single or multi-belt starter packs are available. LabChart and ancillary devices are sold separately.

Signal options include:

- ECG (2 channel)
- Skin temperature
- Breathing trace
- GSR
- Accelerometer (3 axis)
- SpO_2

Sensor Electronics Module (SEM)

Sensor Belt

Galvanic Skin Response Sensor

Bluetooth Dongle

Wired SpO_2 Adapter

Wired physiological recording / biopotentials in humans

Collect precise movement data, record joint movement, and measure muscle and brain activity with absolute confidence. We offer a wide range of solutions for studying the mechanics, properties and performance of muscles and joints. Our range of galvanically isolated and high performance Bio Amps are optimized and safe for human use.

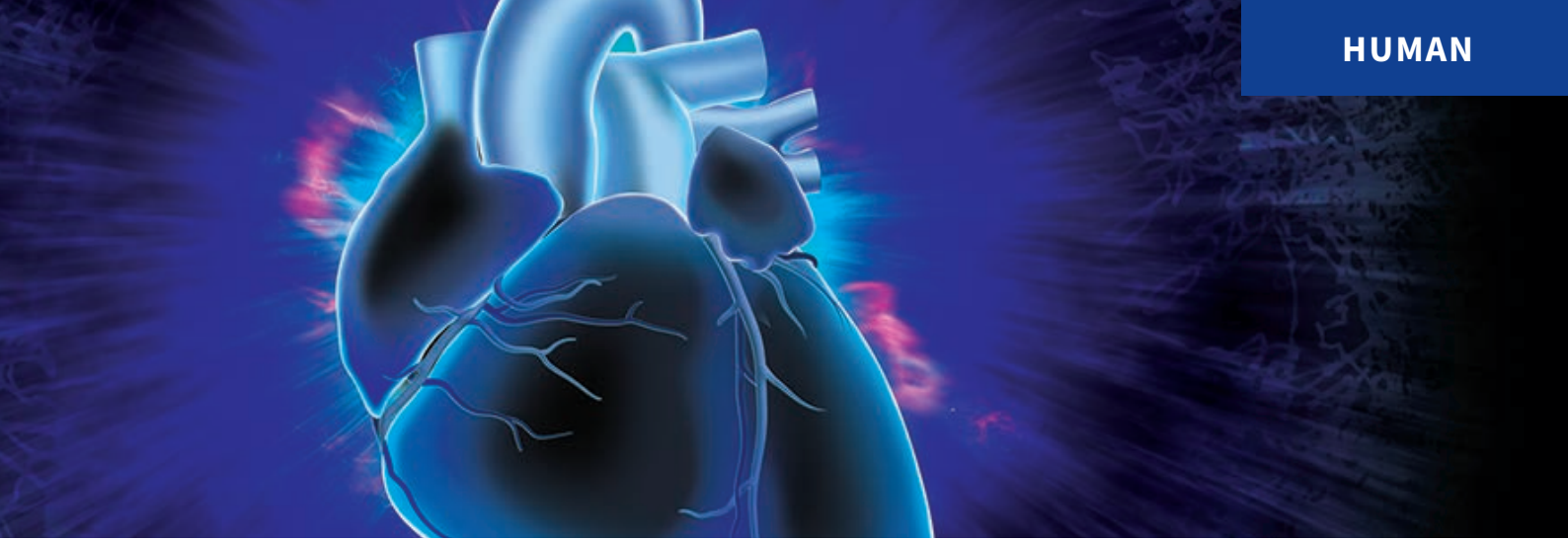
Transducer options include:

- SpO_2

- EEG
- Muscle stimulation

plus:

- ECG
- EMG
- Breathing trace
- Fluid flow
- Temperature
- Angles and ergometer output



Human NIBP

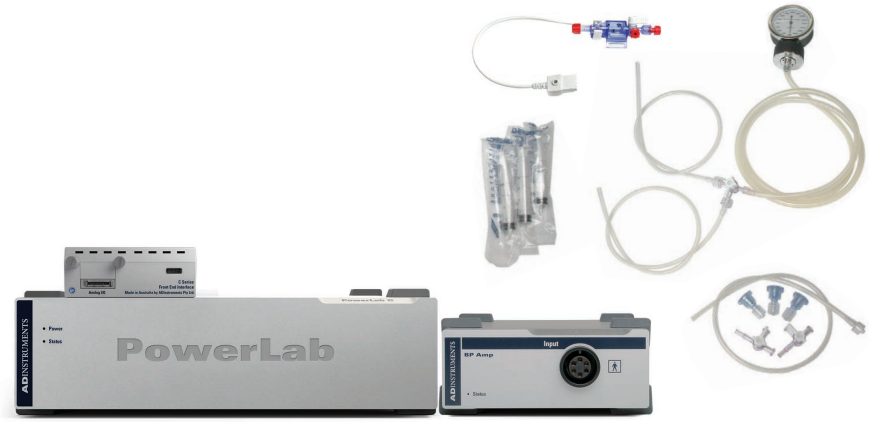
Monitor trends in blood pressure continuously and non-invasively in humans. Reliably record and monitor trends in response to interventions on finger arterial pressure, systolic, diastolic, mean arterial, heart rate and interbeat interval.

Human NIBP Nano System

Stream data directly into LabChart or LabChart Lightning for easy analysis of continuous blood pressure signals from an adult human via our non-invasive dual finger cuff system. Cuffs, available in a variety of sizes, and LabChart, are sold separately.

Invasive Blood Pressure

Measure blood pressure intravenously in humans, from atria to arteriole with our human approved BP amplifiers and disposable pressure transducers.



Pulse Oximetry and Plethysmography

Non-invasive circulatory assessment and monitoring of blood flow and oxygen saturation of the blood.

Psychophysiology

Run protocols for a variety of different visual, physical, auditory and electrical stimuli using SuperLab stimulus presentation software from Cedrus.

With the addition of ancillary devices, easily synchronize these events with voluntary responses as well as either wireless or wired psychological response data from our other human application systems using LabChart, LabChart Lightning, and a 26 Series PowerLab.

RESPIRATORY RATE

EOG EEG GSR

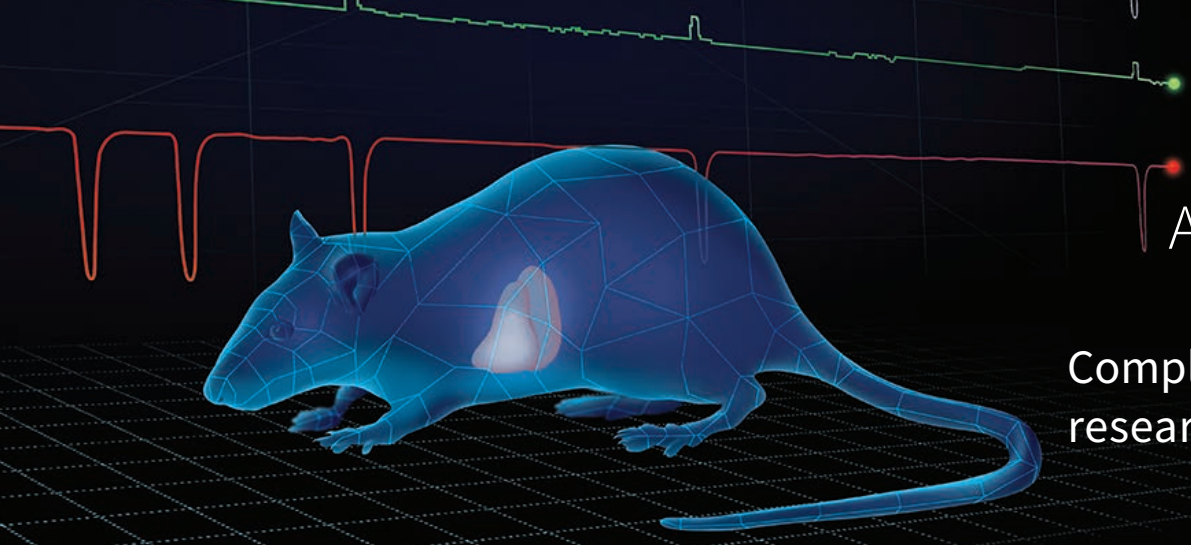
NIBP ECG EMG

Microneurography

Study the neurophysiology of human nerve fibers in the peripheral nervous system.

Microneurography can be performed using a Neuro Amp EX together with LabChart and PowerLab. The Neuro Amp EX is a low-noise, high-gain amplifier which has a wide range of filters and is certified safe for human connection and is supplied with a headstage and six gold connectors for customization of microelectrode adapters. A human-approved isolated stimulator is also available for superficial detection and activation of nerves. This bundle also includes the INL382 Human NIBP Nano System. *(Finger cuffs sold separately)*

\+ **Microelectrodes of your choice**
(not stocked by ADInstruments)



Animal Applications

Complete systems by research application

Ventricular Pressure Volume

Study PV Loops to assess changes in cardiovascular function for both normal and diseased model conditions to the gold standard for measuring direct, real-time, complete cardiac function. Ventricular Pressure Volume is the only research technique that can fully characterize diastolic conditions.

MPVS Ultra® Foundation Systems

Simultaneously measure ventricular pressure and volume in large and small animals with a Millar Pressure Volume (MPVS) Ultra Foundation System. Combine this with your choice of over 50 Millar Mikro-Tip® Catheters covering all animals larger than 16 g (all sold separately). This system is supplied with an Instrument Interface, MPVS Ultra Pressure-Volume Unit, and LabChart Pro (with the PV Loop Module for the automated calculation of systolic and diastolic pressures, stroke volume, CO, and more.

The Large Animal System includes a PowerLab C and two additional Instrument Interfaces.

Small Animal System (Rats and Mice)

+ select your choice of Millar Mikro-Tip® Pressure Volume Catheters

LARGE ANIMALS | RATS | MICE

Invasive Blood Pressure

Measure continuous arterial and vascular pressure signals at the source. Invasive blood pressure is the most commonly used method for high fidelity monitoring of basic cardiovascular parameters.

Mikro-Tip® BP Foundation System

Provides the essential tools for high fidelity blood pressure measurements in small to large animals. Includes C Series Front End Interface, LabChart Pro, and low-drift, high impedance Input Bridge Amp. Complete your system by choosing from a wide range of Millar Mikro-Tip® pressure catheters (sold separately). LabChart's BP Module operates seamlessly to determine systolic and diastolic pressures, dichrotic notch, dP/dt and more.

PowerLabC COMPATIBLE

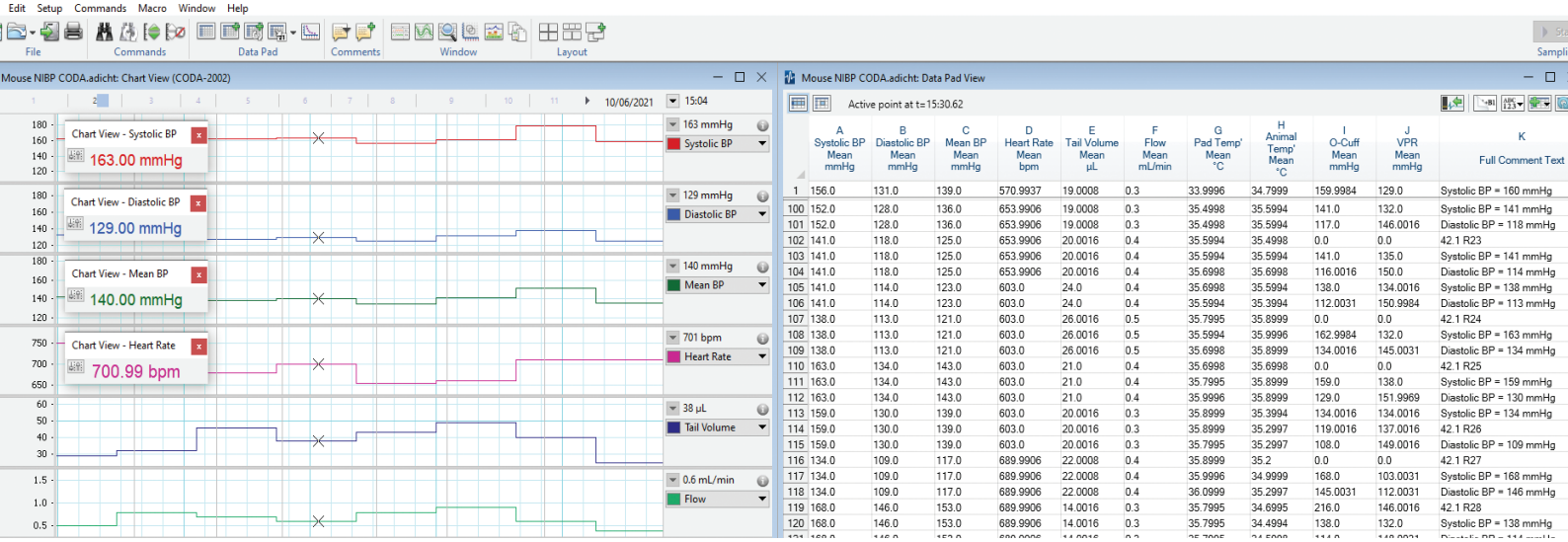
+ select your choice of Millar Mikro-Tip® Pressure Catheters

LARGE ANIMALS | RATS | MICE

Fluid-filled blood pressure transducers

An alternative option to determine arterial and venous blood pressure in small and large animals. Disposable fluid-filled polyethylene pressure transducers are used with ADInstruments Bridge Amps (single, quad or octal) or the electrically isolated BP Amp that provides BP readings in mmHg.

or



	A Systolic BP Mean mmHg	B Diastolic BP Mean mmHg	C Mean BP Mean mmHg	D Heart Rate Mean bpm	E Tail Volume Mean µL	F Flow Mean mL/min	G Pad Temp' Mean °C	H Animal Temp' Mean °C	I O-Cuff Mean mmHg	J VPR Mean mmHg	K Full Comment Text
1	156.0	131.0	139.0	570.9937	19.0008	0.3	33.9996	34.7999	159.9984	129.0	Systolic BP = 160 mmHg
100	152.0	128.0	136.0	653.9906	19.0008	0.3	35.4998	35.5994	141.0	132.0	Systolic BP = 141 mmHg
101	152.0	128.0	136.0	653.9906	19.0008	0.3	35.4998	35.5994	117.0	146.0016	Diastolic BP = 118 mmHg
102	141.0	118.0	125.0	653.9906	20.0016	0.4	35.5994	35.4998	0.0	0.0	42.1 R23
103	141.0	118.0	125.0	653.9906	20.0016	0.4	35.5994	35.5994	141.0	135.0	Systolic BP = 141 mmHg
104	141.0	118.0	125.0	653.9906	20.0016	0.4	35.6998	35.6998	116.0016	150.0	Diastolic BP = 114 mmHg
105	141.0	114.0	123.0	603.0	24.0	0.4	35.6998	35.5994	138.0	134.0016	Systolic BP = 138 mmHg
106	141.0	114.0	123.0	603.0	24.0	0.4	35.5994	35.3994	112.0031	150.9984	Diastolic BP = 113 mmHg
107	138.0	113.0	121.0	603.0	26.0016	0.5	35.7995	35.8999	0.0	0.0	42.1 R24
108	138.0	113.0	121.0	603.0	26.0016	0.5	35.5994	35.9996	162.9984	132.0	Systolic BP = 163 mmHg
109	138.0	113.0	121.0	603.0	26.0016	0.5	35.6998	35.8999	134.0016	145.0031	Diastolic BP = 134 mmHg
110	163.0	134.0	143.0	603.0	21.0	0.4	35.6998	35.6998	0.0	0.0	42.1 R25
111	163.0	134.0	143.0	603.0	21.0	0.4	35.7995	35.8999	159.0	138.0	Systolic BP = 159 mmHg
112	163.0	134.0	143.0	603.0	21.0	0.4	35.9996	35.8999	129.0	151.9969	Diastolic BP = 130 mmHg
113	159.0	130.0	139.0	603.0	20.0016	0.3	35.8999	35.3994	134.0016	134.0016	Systolic BP = 134 mmHg
114	159.0	130.0	139.0	603.0	20.0016	0.3	35.8999	35.2997	119.0016	137.0016	42.1 R26
115	159.0	130.0	139.0	603.0	20.0016	0.3	35.7995	35.2997	108.0	149.0016	Diastolic BP = 109 mmHg
116	134.0	109.0	117.0	689.9906	22.0008	0.4	35.8999	35.2	0.0	0.0	42.1 R27
117	134.0	109.0	117.0	689.9906	22.0008	0.4	35.9996	34.9999	168.0	103.0031	Systolic BP = 168 mmHg
118	134.0	109.0	117.0	689.9906	22.0008	0.4	36.0999	35.2997	145.0031	112.0031	Diastolic BP = 146 mmHg
119	168.0	146.0	153.0	689.9906	14.0016	0.3	35.7995	34.6995	216.0	146.0016	42.1 R28
120	168.0	146.0	153.0	689.9906	14.0016	0.3	35.7995	34.4994	138.0	132.0	Systolic BP = 138 mmHg

Rodent NIBP CODA® Monitor Sets

ADInstruments Rodent NIBP CODA® Monitor Sets are a streamlined solution using the precision of Kent Scientific's Volume Pressure Recording (VPR) technology to accurately and reliably measure NIBP. Data is streamed directly from the CODA® Monitor into LabChart, automatically detecting systolic, diastolic, mean blood pressure and heart rate.

CODA® NIBP Chart and Data Pad View in LabChart

Invasive Volume Flow

Perform accurate and precise volume flow measurements of most non-aerated liquids, including water, saline, and blood analogs, in almost any flexible tubing circuit. Applications include isolated heart, perfused organ, and circulatory support device development studies.

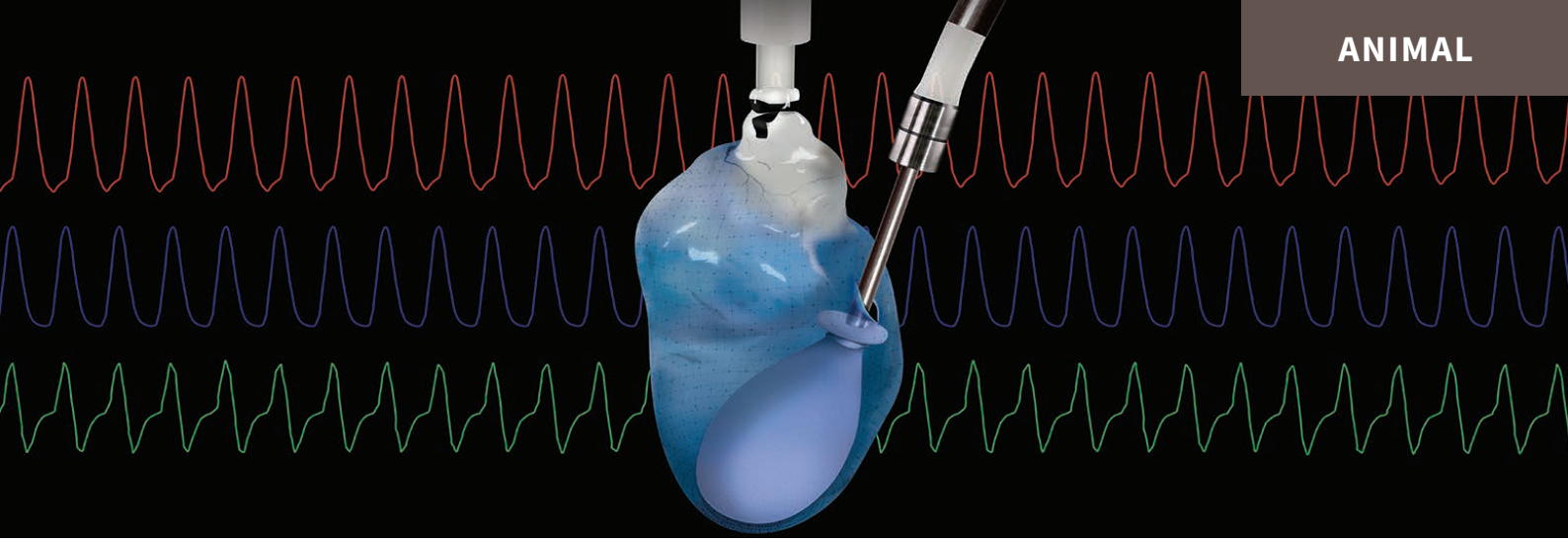
Transonic Flow Systems

You can reliably measure volume flow by pairing Transonic's state-of-the-art ultrasound transit-time technology with LabChart and PowerLab. They provide the necessary flow metrics to develop and test device prototypes, validate pump accuracy, characterize pulsatile and steady flow dynamics, and are integral to any mock circulatory tubing model. Single or dual-channel flowmeters are available in various combinations of either tubing or perivascular flow modules. Compatible flow sensors (available separately), both clamp-on and in-line, are available in various sizes.

PowerLab COMPATIBLE

Laser Doppler Flowmetry

Measure tissue perfusion (blood flow) invasively or noninvasively using a Laser Doppler technology Blood Flowmeter that is compatible with a range of LDF probes for skin, muscle and organs. Easy to use, and highly suitable for monitoring circulation during surgery or studying tissue perfusion in drug or cardiovascular studies. Using our LabChart software, PowerLab, Blood Flowmeter and a suitable LDF probe, you can continuously monitor and rapidly analyze tissue perfusion of microvascular beds.



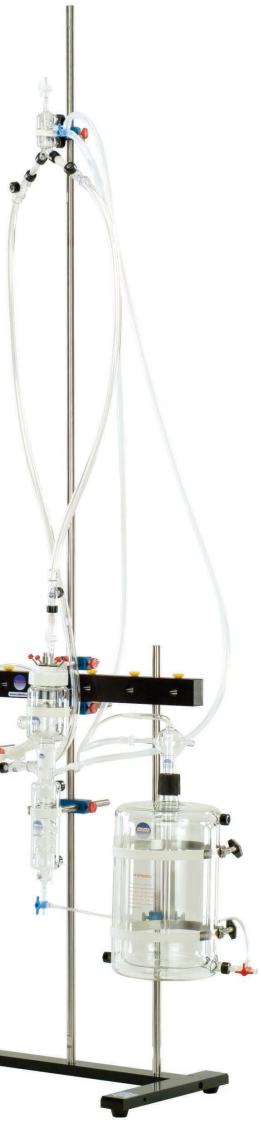
Langendorff Perfused Heart

Monitor an isolated heart while retrogradely perfusing the coronary arteries with a nutrient solution. This allows you to record and analyze multiple cardiac parameters such as left ventricular developed pressure, HR and more.

Langendorff System - ADInstruments

This compact yet modular apparatus is ideal for retrograde perfusion of isolated rodent hearts, with the ADInstruments Direct Perfusion Core for measuring signals from closer to the heart. Start with the standard design, and simplify your apparatus to a single reservoir option or expand for more complex needs with additional component purchases.

Pair with compatible kits to tailor your apparatus to several research parameters.



Langendorff Systems - Radnoti

Radnoti traditional modular solutions for isolated mouse and rat hearts are available in several perfusion options, including constant pressure or flow, and recirculating or non-recirculating. Combining the corresponding high-quality glass apparatus from Radnoti with LabChart Pro and PowerLab.

Isolated Heart Kits *(purchased separately)*

Tailor any Langendorff apparatus to measure several research parameters by pairing them with specialized kits:

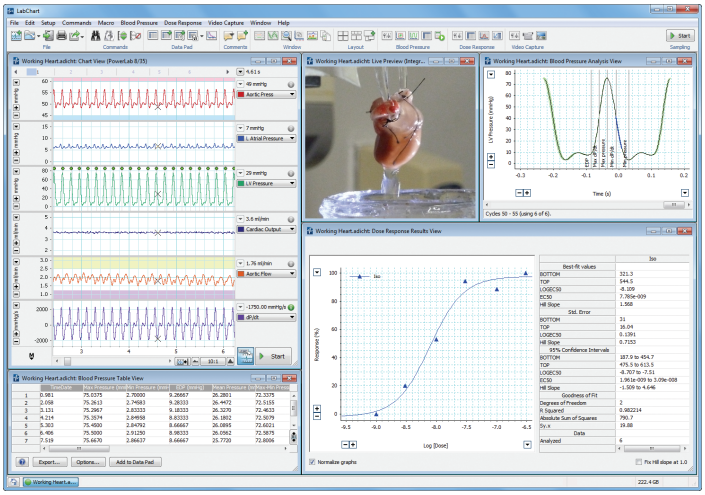
- Isolated Heart Pressure Kits
- Isolated Heart Action Potential Kits
- Isolated Perfusion Temperature and pH Kit
- Isolated Heart Pacing Kits

Working Heart

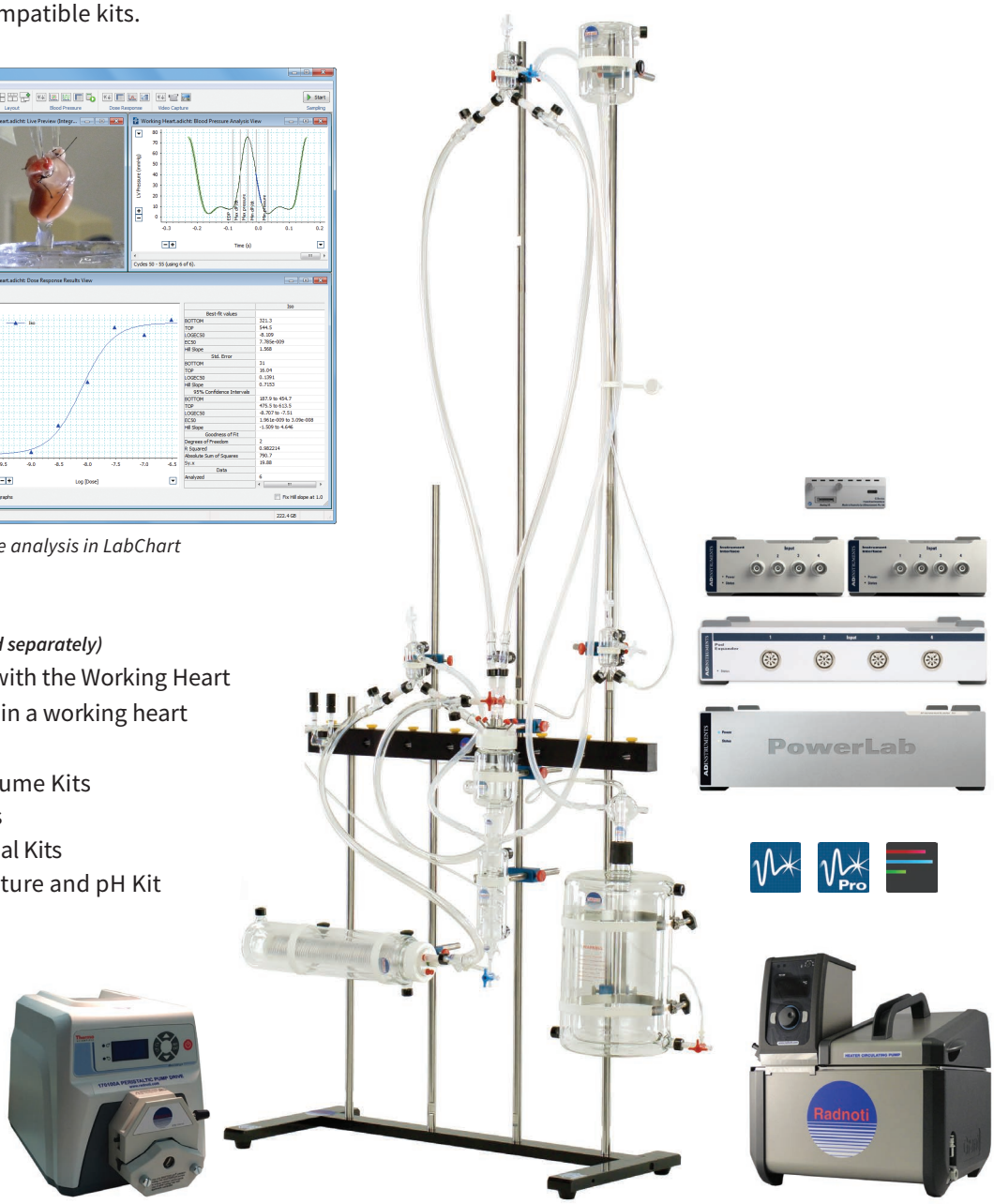
Simultaneously monitor mechanical and electrical cardiac parameters while physiologically perfusing an isolated heart to examine the influence of preload and afterload on cardiac work.

Working Heart Foundation System - Radnoti

Combine the corresponding high-quality glass apparatus from Radnoti with LabChart Pro and PowerLab. With options for mice or rats, systems are capped and water-jacketed to ensure constant perfusate temperature and include ports for the insertion of cannulae and commonly-used pacing and ECG electrodes. Can be tailored to measure a number of research parameters by pairing with compatible kits.



Radnoti Cardiovascular Blood Pressure analysis in LabChart



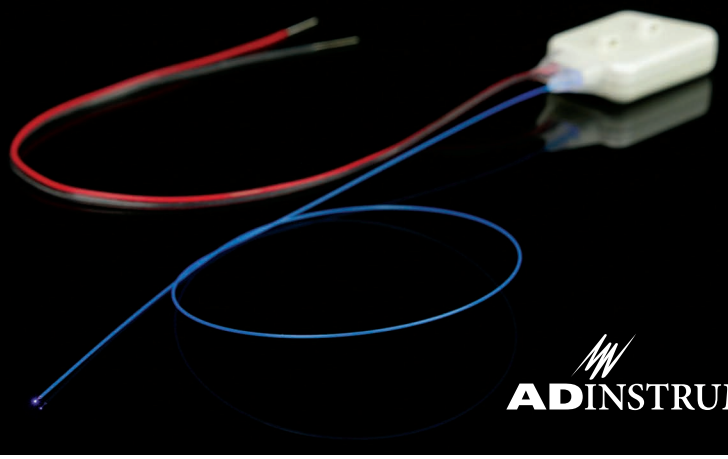
Isolated Heart Kits *(purchased separately)*

Specialized kits can be paired with the Working Heart apparatus to tailor parameters in a working heart preparation:

- Working Heart Pressure Volume Kits
- Isolated Heart Pressure Kits
- Isolated Heart Action Potential Kits
- Isolated Perfusion Temperature and pH Kit
- Isolated Heart Pacing Kits

KAHA SCIENCES

A new standard in quality and power



ADINSTRUMENTS

Small Animal Telemetry

The use of telemetry in animal research is a recommended industry practice for improved animal welfare. Continuously record data over extended periods with conscious, freely moving animals, and reduced stress artifacts in your research data.

For the wireless recording of a variety of biological signals in small animals, ADInstruments offers our telemetry brand, Kaha Sciences. Kaha systems combine high fidelity digital telemetry with patented wireless power technology to create high-quality solutions for your physiological monitoring needs. Paired with PowerLab and LabChart, this solution sets the new standard in quality and power for implantable, wireless telemetry in rats and mice.

Power

- Wireless power
- Higher sampling rate - 2 kHz
- Continuous recordings
- Unique signal technologies

Quality

- Millar solid-state pressure sensors
- ISO-9001 Certified
- Durable, biocompatible hard-shell casing

Signal Options

- Pressure
- Biopotentials (i.e. ECG, EMG, EEG)
- Sympathetic Nerve Activity (SNA)
- Tissue Oxygen
- Temperature (output in all telemeters)
- Optogenetic Stimulation and Recording

Rat

- Biopotentials (i.e. ECG, EMG, EEG)
- Index of Activity

Mouse

Simple and Customizable System Setup

Configure a telemetry system to meet your exact needs. A typical setup requires one telemeter and one SmartPad (rats) or tBase (mice) per animal. Each lab requires one Configurator System for all equipment. Pair with PowerLab and LabChart 8 or LabChart Lightning. Select from up to 40 independent transmission channels with no interference.

Rat Telemetry

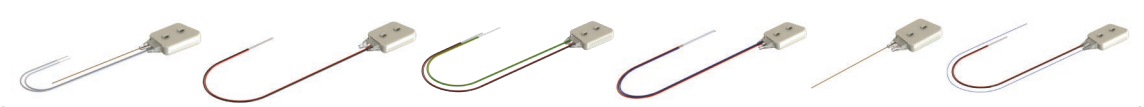
Data transmission range up to 5 m with telemeter battery back-up and *in vivo* recharging. Cohousing feature for two animals in one cage or two implants in one animal (>350 g).

Mouse Telemetry

Accurately measure biopotential parameters in mice that are traditionally restricted to acute or tethered experiments with a sampling rate up to 2 kHz with unmatched data quality.

Cohousing Example Setup

Your Choice of Telemeters



Rat

Mouse

In Vitro Applications

Complete systems by research application

Extracellular Recording System

Extracellular recordings measure and characterize the electrical properties of cells and tissues, particularly neurons and neuronal tissue. Extracellular recording systems can include single-unit, multi-unit, field potential, or amperometry recordings.

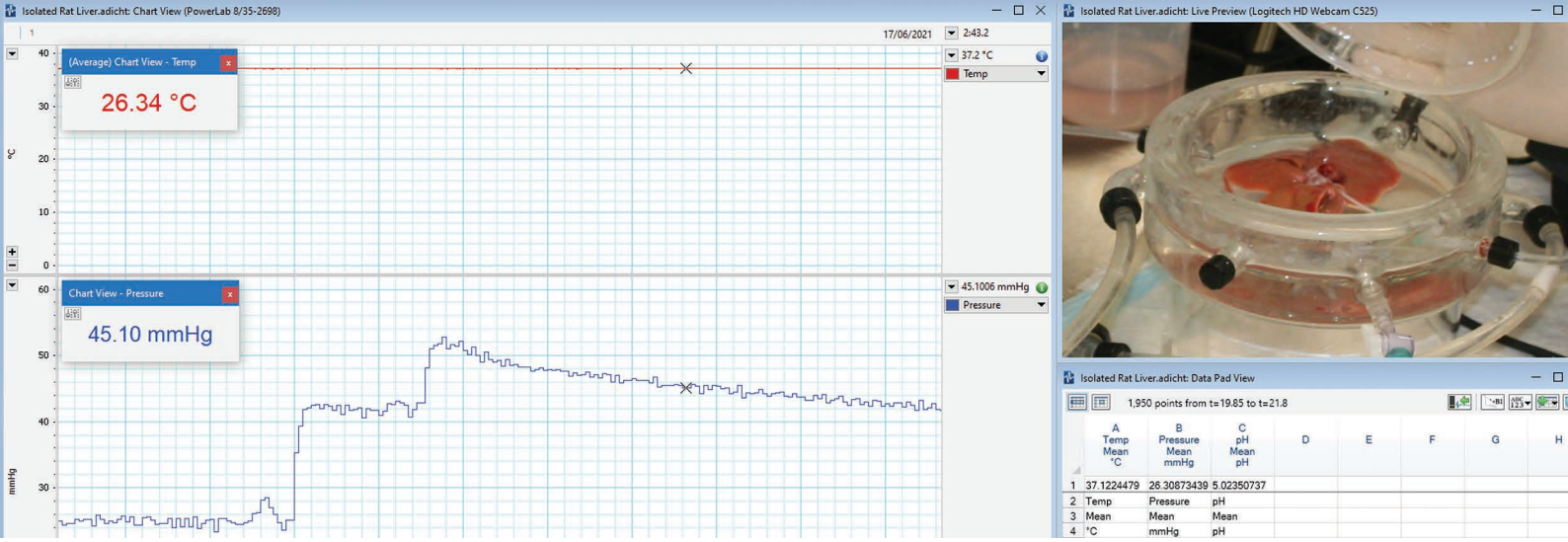
The Microelectrode AC Amplifier is a two-channel differential amplifier intended for extracellular recording via a headstage and high-impedance metal microelectrodes (purchased separately). Pair with LabChart Pro analysis software and either a PowerLab C or a C Series Instrument Interface. While it is ideally suited for single-cell spike recordings, it can also record excitable tissue (nerve or muscle/EMG), EEG, EKG, and ERG. Additionally, it provides the option to connect to an external stimulator (purchased separately), which allows switching between stimulation and recording at the recording site.

Intracellular Recording

Intracellular recording is an electrophysiology technique that inserts a microelectrode into a single cell (usually a neuron) to precisely measure its electrical activity.

The Neuroprobe Amplifier is ideal for intracellular recording of single-cell action potentials, current clamp, dye injection, and even ultra-low noise extracellular recordings in the extracellular fluid adjacent to the cell. Reputed to be among the quietest available on the market, it provides DC balance and offset, current injection, and capacitance compensation. This amplifier is supplied with a headstage for connecting to glass microelectrodes (purchased separately) via holders and pair with LabChart Pro software via either a PowerLab C or a C Series Instrument Interface.

Iontophoresis Adapter (optional accessory)



Isolated Tissue and Organ Baths

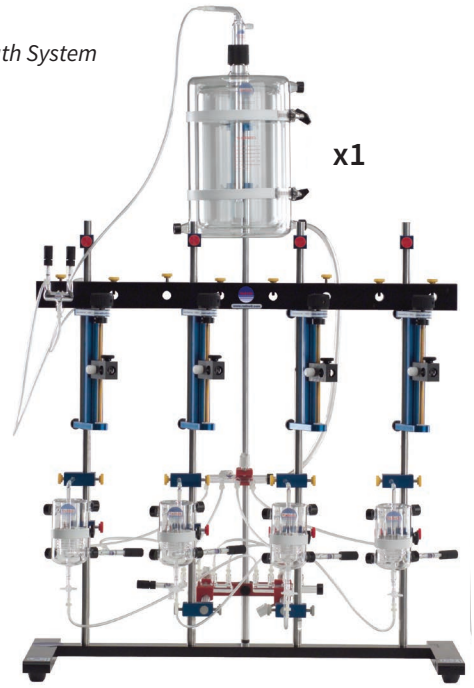
Controlling conditions such as temperature, oxygenation, nutrients and pH is a useful way to observe and compare evoked responses to drugs and electrical stimulation. Isolated tissue baths are used to maintain the integrity of muscle tissue for several hours, in a controlled environment, while physiological measurements are performed.

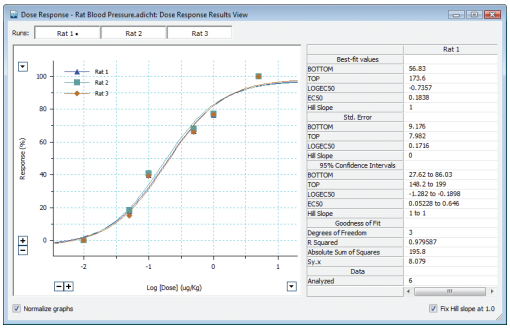
Tissue-Organ Bath Systems (Radnoti)

A more traditional and highly modular solution that allows for easy substitution of parts, enabling an extensive choice of tissue types and chamber sizes (5 to 300 mL). Systems available in 4, 8, or 16 chamber options. Constant temperature maintenance throughout the system is ensured for accurate study of muscle contraction, dose response and more.

PowerLab COMPATIBLE

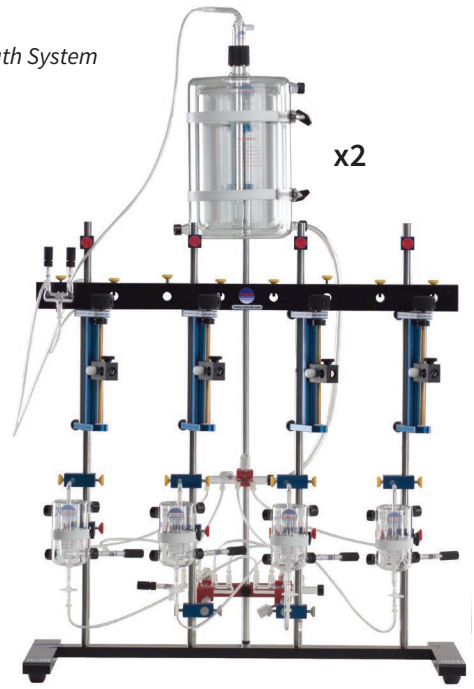
Radnoti 4 Chamber Tissue-Organ Bath System





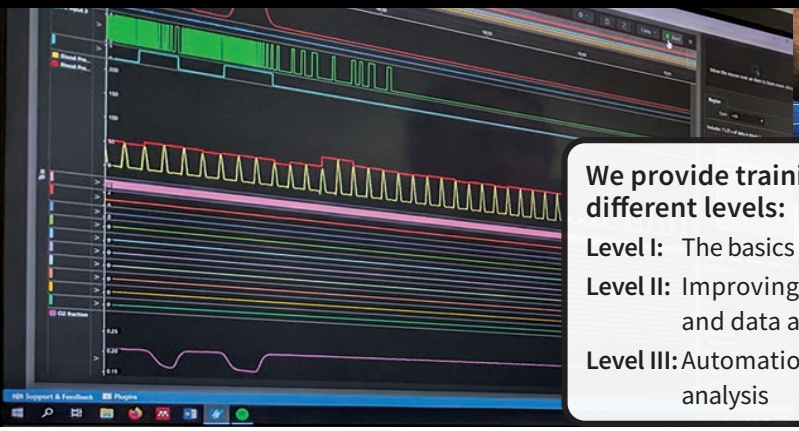
The LabChart Dose Response Module Results View displaying the fitted response curve and parameters of higher doses of norepinephrine increase blood pressure in three different rats.

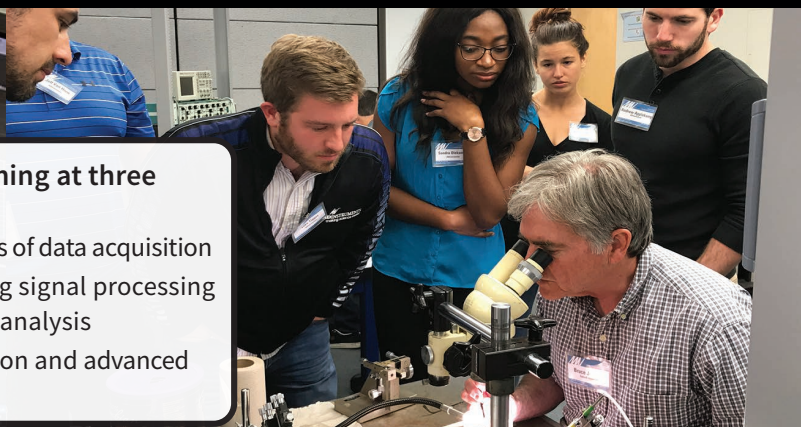
Radnoti 8 Chamber Tissue-Organ Bath System



ADInstruments Training and Support

Our global support and flexible training options mean that there is always help at hand to streamline your experiments and reach your research goals faster. Whether you are already a career scientist or just starting out, we can help you master best practice techniques for your research.





We provide training at three different levels:

Level I: The basics of data acquisition

Level II: Improving signal processing and data analysis

Level III: Automation and advanced analysis

Software Training

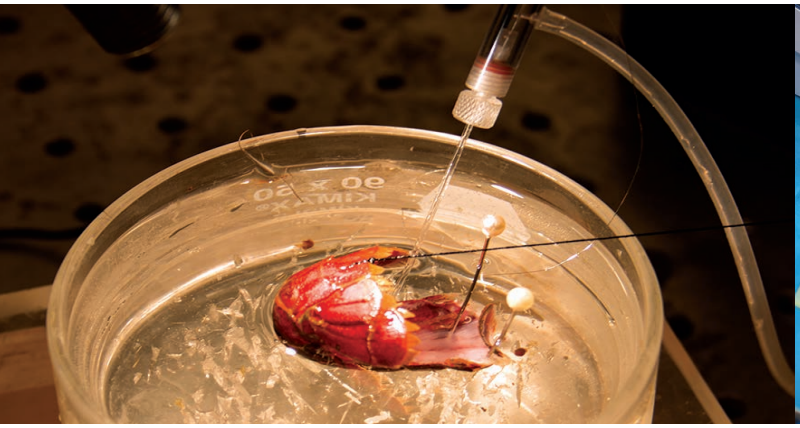
Our software training courses are designed to get you up to speed with relevant, useful skills and knowledge, as quickly as possible.

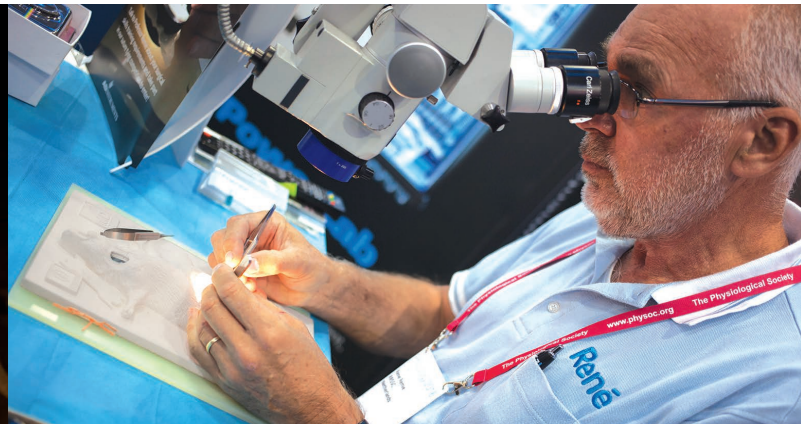
Training courses are hands-on and delivered by our team of experienced scientists and teach professional best practices to immediately improve data accuracy, problem solving, workflow, and efficiency.

Customized Onsite Training

Increase efficiency with tailored training courses, delivered at your facility. We can customize our curriculum to suit your needs, and teach the hardware and software best practices for your unique requirements.

Our hands-on training fast-tracks learning, to immediately improve output and efficiency, so you can achieve your research goals, sooner.





Application Workshops

ADInstruments partners with world class universities, institutes and leading researchers to develop training directed at specific protocols, techniques and applications.

Our hands-on workshops teach you to use our systems in the most relevant, effective and efficient way for your needs.

Live Product Demonstration

Showcasing powerful and flexible solutions for research. Experience how our integrated hardware and software solutions could help enhance your work.

Take the opportunity to talk to one of our expert team about how we could help you reach your specific goals.

WEBINARS

A comprehensive range of product, application, and customer webinar videos are available from our online library. Visit **adi.to/training** to sign up for one of our upcoming live webinars.

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