TISSUE ORGAN BATH SYSTEMS

Airway research • Intestine research • Urinary research • Bladder research • Gall bladder research • Gut research • Erectile dysfunction • And more...
An isolated organ bath assay is the classical pharmacological screening tool to assess concentration-response relationships in contractile tissue. Although a variety of molecular tools have become available in recent decades to assess cellular responses in high-throughput quantities, the organ bath assay is still considered a valuable tool for lead optimization and for the elucidation of the mechanism of action. In addition, organ bath assays are widely used in preclinical safety studies.

The most common application of the organ bath assay is in cardiovascular research, using isolated aortic rings, heart tissue (papillary muscle, left ventricles) or arteries. For studying gastrointestinal effects, preparations of ileum and colon are often used, but also gastric antral muscle and sphincter may be studied.

Respiratory effects can be studied in isolated tracheal rings, phrenic diaphragm preparations, pulmonary arterial smooth muscle and even lung parenchyma. Other smooth muscle preparations that are used in organ bath research are urinary bladder, penile muscle strips or prostate.

In contrast to molecular assays, the complex responses of the organ bath assay can be studied while controlling several physiological parameters. In addition, effects of compounds with unknown molecular targets can be studied. Important tissue-specific expression and modification of molecular targets may be lost in cell culture assays but can be studied in the organ bath. Organ baths are also ideal for studying responses in specific animal disease models.
TISSUE ORGAN BATH SYSTEMS - PRODUCTS

TISSUE BATH SYSTEM - 720MO

The 4-channel Tissue Bath System - 720MO is a highly sophisticated, robust, easy-to-use research instrument for the in vitro study of larger blood vessels and other tubular tissues mounted as ring preparations of up to 10 mm in diameter, such as trachea or gut.

- The four chambers allow studies of four preparations simultaneously
- Ideal for work requiring a higher throughput such as cumulative concentration response curves
- Pin mounts facilitate the use of larger ring segments from 450 μm up to 10 mm
- The segments remain viable for >12 hours
- Built-in heating, electronic valves for simultaneous rapid removal of buffer, analog output of force
- Optional Automatic Buffer Filler System - 625FS allows semi-automated filling of all four chambers

TISSUE ORGAN BATH SYSTEM - 751MT MINI-TOBS

DMT has redesigned the organ bath system for the new millennium using the latest developments in material, computer and tissue engineering. We took away the circulating water-heating and replaced it with rapid air-heating for more efficient and consistent temperature control. We took away the double-jacketed glass chambers and replaced them with single-wall glass chambers to make cleaning easier. We added computer-automated filling and emptying control to ease workload. We even provided digital force output for higher quality data acquisition. The controller program allows the user full control over all key functions of the organ bath. We managed to put all of this in a box that takes up a quarter of the space of a traditional system.

- Flexible and versatile
- Low maintenance
- Air-heated chambers
- Quick and easy set up
- Simple to use, easy to clean
- Compact design - small footprint
- Highly automated
- 5 ml, 10 ml, 20 ml chamber sizes

TISSUE ORGAN BATH SYSTEM - 750TOBS

The Tissue Organ Bath System - 750TOBS is an affordable system that is recommended for a large variety of studies in the teaching environment, where contractile force measurement (isometric or isotonic) is required. Whether the experiment involves cardiac, skeletal or smooth muscle, the availability of a range of tissue holders and chambers make it a versatile laboratory tool.

- Fully functional yet economical
- Closed buffer circuit with no external reservoirs
- Automated fill and drain
- Non water-based heating system
- Isometric and isotonic transducers available
- Built-in amplifiers
- Simple controls and intuitive operation
TISSUE ORGAN BATH SYSTEMS - ACCESSORIES

AUTOMATIC BUFFER FILLER SYSTEM - 625FS
The Automatic Buffer Filler System is easily ‘clicked’ onto your 4-channel Myograph System. The Automatic Buffer Filler System can fill one chamber of choice separately or all 4 baths simultaneously with buffer by a single touch of a button. The Automatic Buffer Filler System can apply two different volumes of buffer. The standard setting is 6 ml and 8 ml of buffer. Other volumes, however, can be requested before time of delivery if the standard settings do not meet your needs.

STIMULATOR CS4/CS8
The CS4/CS8 stimulators combines a user-friendly interface with advanced electrical stimulation features required in electrophysiological experiments. The CS4/CS8 is a modular, highly versatile voltage stimulator suitable for use with all DMT Myograph Systems.

The CS4/CS8 stimulator is controlled by the MyoPULSE software which is a flexible software solution. In MyoPULSE one can program stimulation protocols for simple voltage single pulses and very complicated voltage trains.

DATA ACQUISITION SYSTEMS
PowerLab with LabChart software and DMT Device Enabler.

The DMT Device Enabler allowing automatic recognition of supported devices by LabChart, use of multiple DMT systems simultaneously, correct units and ranges in LabChart channels and simultaneous recording of data into LabChart alongside a PowerLab. The DMT Device Enabler allows streaming of data directly into LabChart.