

On-Site Expert Instruction: Isolated Perfused Kidney



Overview

Isolated perfused kidney preparations provide a controlled ex vivo platform for studying renal physiology, pharmacology, therapeutic efficacy, and tissue-level effects while preserving integrated organ function. These models allow direct assessment of renal hemodynamics, filtration, tubular handling, clearance, metabolism, and other functional responses under defined experimental conditions.

This customizable program brings Richard Schroeder, a specialist in isolated organ perfusion and renal physiology, directly to your facility. Training is tailored to your laboratory's existing capabilities, equipment, species, scientific objectives, and intended applications, with system configuration, perfusion conditions, and functional measurements selected around what your team needs to investigate.

Training Highlights

- **Hands-On Kidney Preparation:** Donor preparation, ureter and renal artery cannulation, kidney extraction, mounting, stabilization, monitoring, and preparation assessment.
- **System Setup & Optimization:** Perfusion configuration, instrumentation, calibration, data acquisition, perfusate composition, oxygenation, and physiological optimization.
- **Functional Renal Assessment:** Perfusion pressure and flow, vascular resistance, urine production, GFR, tubular reabsorption and excretion, clearance, metabolism, and other functional endpoints.
- **Therapeutic Evaluation & Disease Models:** Apply isolated kidney approaches to therapeutic efficacy, renal safety, tissue uptake, mechanism-of-action studies, and disease-model research.
- **Specialized Applications:** Renal vascular biology, ischemia and hypoxia, biomarkers, oxygen consumption, advanced imaging, microbubble perfusion, and single-nephron approaches.

Build Your Custom Training Program

Whether you're establishing a new capability or expanding an existing one, we'll work with you to define the training scope, duration, and objectives.

Pricing is customized to the engagement.

A Training Experience Built Around Your Lab

Preparation & Planning

Training begins with a review of your laboratory's scientific objectives, existing experience, equipment, species, and intended applications. Richard works with your team to determine the perfusion strategy, system configuration, physiological conditions, and functional endpoints best suited to the research question.

Hands-On Training & Application

Training progresses from system preparation and kidney isolation through renal artery and ureter cannulation, stabilization, urine collection, functional assessment, data interpretation, and troubleshooting. Participants learn to evaluate preparation quality, recognize experimental artifacts, and select functional measurements relevant to their research. The goal is to develop the skills and understanding needed to perform reliable isolated kidney studies independently.

Building a new capability? Consultation can begin before equipment is purchased, helping your team define system requirements, instrumentation, components, and supplies around the science you intend to perform.

Physiological Conditions Matter

Perfusate composition, oncotic agents, oxygenation, and perfusion strategy can influence renal function, preparation stability, and experimental results. Richard helps your team understand and optimize these conditions to support reliable measurements and meaningful data interpretation.

Your Instructor

Richard Schroeder, BS, RVT, LAT

Richard Schroeder is a specialist in isolated-organ perfusion and experimental physiology with more than 40 years of experience in preclinical drug discovery and research. His expertise includes isolated kidney model development, perfusion system optimization, renal functional assessment, troubleshooting, and scientific interpretation.



Science moves faster when you're surrounded by the right people.

Endpoint Preclinical is a consulting network that works inside and as an extension of your lab. Our experts are here to strengthen your preclinical programs—from experimental design to model creation, data acquisition, multimodal analysis, final reporting, and more.

One team, one agreement, one trusted partner.