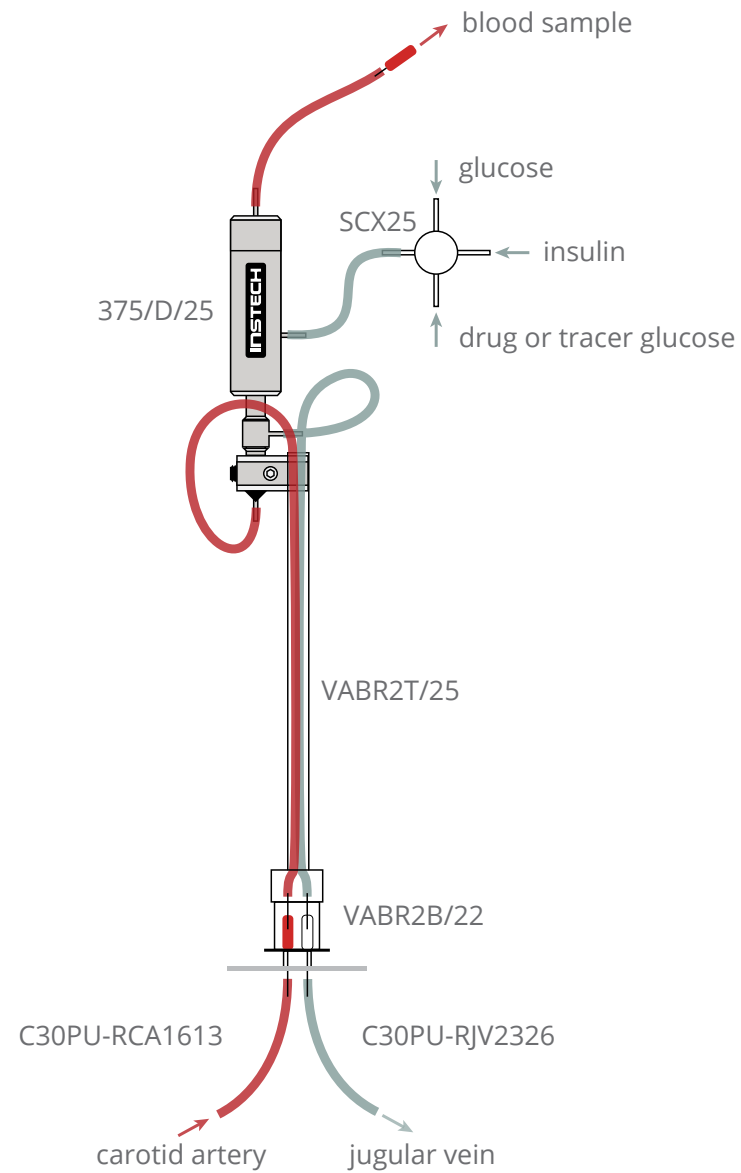


rat glucose clamp

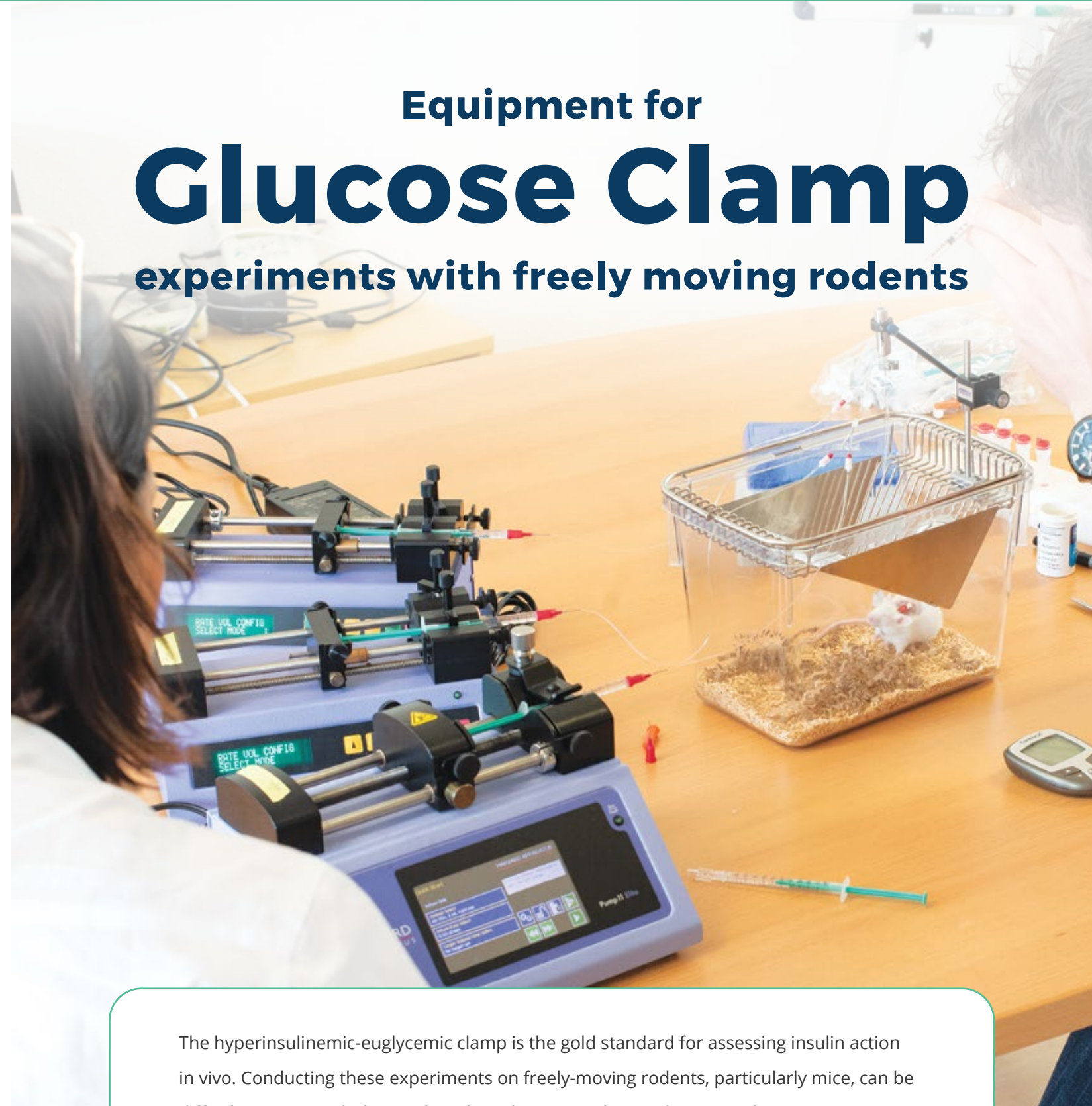
A rat glucose clamp set up is similar to the mouse, but with 2 channel swivels, Vascular Access Buttons™ and catheters designed for rats. Instech offers rat catheterization training courses if needed.



SPECIFICATIONS
PRICING
QUOTE REQUESTS



Equipment for Glucose Clamp experiments with freely moving rodents



The hyperinsulinemic-euglycemic clamp is the gold standard for assessing insulin action in vivo. Conducting these experiments on freely-moving rodents, particularly mice, can be difficult, starting with the combined jugular vein and carotid artery catheterization surgery. Instech's equipment and training resources will give your lab the best chance of success, without sacrificing data quality or animal welfare.

mouse glucose clamp

Our pumps, swivels and tethers are standard equipment in glucose clamp experiments. Multiple syringe pumps push glucose, insulin, drugs, replacement blood cells and tracers into a three or four-way connector which combines and reaches the animal via a two-channel swivel.

Blood samples are taken manually on the second channel outside the cage to minimize stress. The two-channel Vascular Access Button™ elegantly exteriorizes the catheters, and PinPorts™ are used to simplify injections or intermittent sampling.

The mouse system is based on the techniques developed and taught by the Vanderbilt MMPC.

SPECIFICATIONS
PRICING
QUOTE REQUESTS



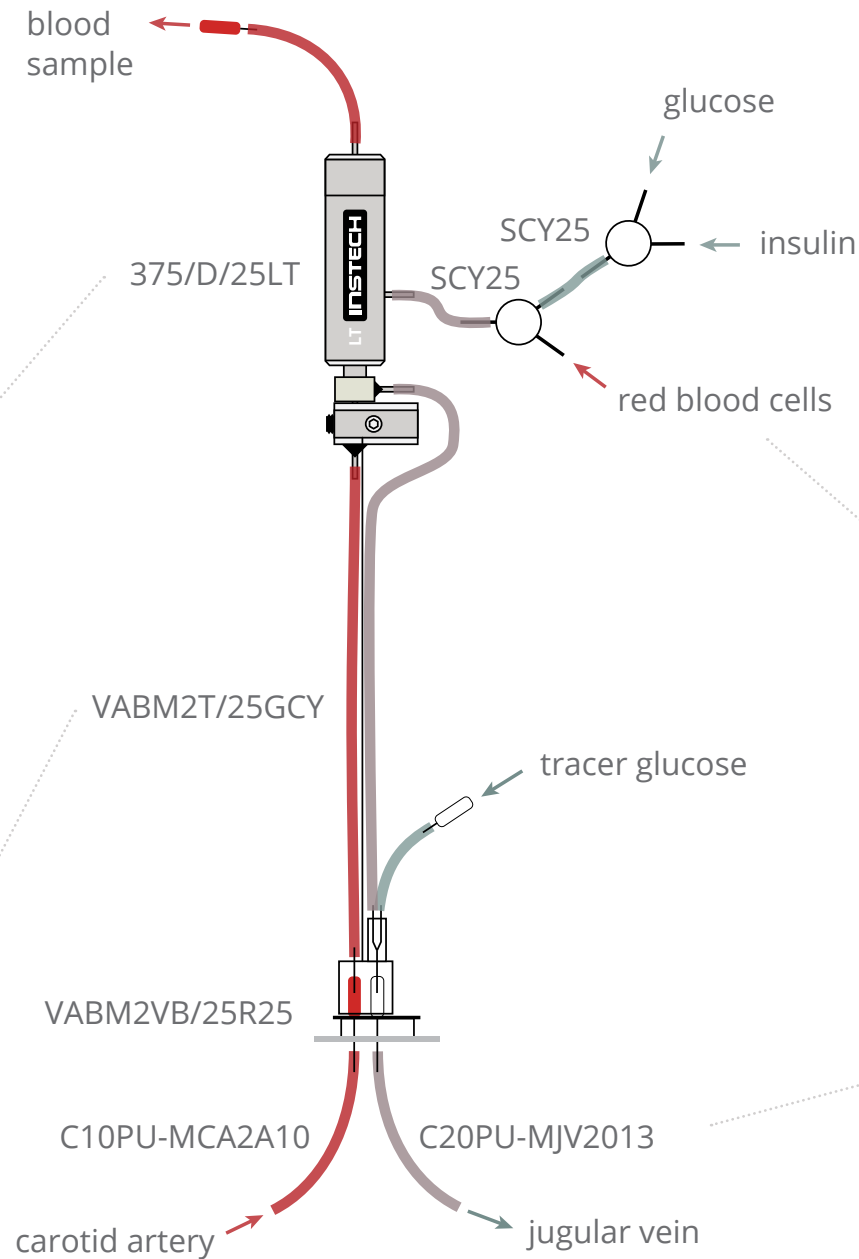
Take blood samples outside the cage, without touching the animal.



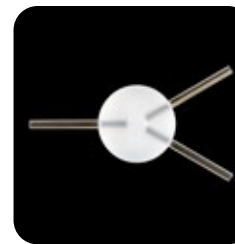
The low-torque 2 channel swivel can be turned by a mouse when combined with the looped wire tether.



The specially designed glucose-clamp tether has one line for blood sampling and a second for infusion, with a built-in Y connector close to the animal for tracer injection. The lightweight looped wire keeps lines organized and turns the swivel.



Precise, easy-to-use syringe pumps infuse glucose (at the GIR which you will vary during the experiment), insulin and red blood cells.



Three- or four-way connectors combine infusion lines.



Catheters are made from medical-grade polyurethane in a clean room and EtO sterilized. Collars mark proper insertion lengths.

THE MOUSE VASCULAR ACCESS BUTTON™ ADVANTAGE

- **Closed system.** Miniature PinPorts™ connect catheters to external lines cleanly and simply, minimizing the backflow, air bubbles and bacteria ingress that can compromise patency.
- **Sterile.** Built in a cleanroom from medical-grade materials and ETO sterilized, Instech VABs™ are designed for implantation.
- **Animal welfare.** A magnetic tool streamlines handling; protective caps allow group housing.



TRAINING RESOURCES

- **Vanderbilt MMPC** (Nashville, TN) – week-long in-person courses annually covering surgery and the clamp technique.
- **René Remie Surgical Skills Centre** (Almere, Netherlands) – seven day in-person courses covering surgery and the clamp technique.
- **The Jackson Laboratory** (Bar Harbor, ME) – three-day courses covering jugular vein and carotid artery catheterization of mice.
- **Instech** (live online) – half-day live on-line courses covering catheterization surgeries in mice and rats.