

BASi's Culex® Automated In Vivo Sampling System is designed to collect pharmacokinetic (PK) and pharmacodynamic (PD) data from rats, mice, and other small rodents. While several models exist since it was first released in 1999, the current rodent model is Culex Nxt™. The system is used worldwide at pharmaceutical development companies, academic institutions, government research laboratories, and commercial contract research organizations. The BASi Culex® with Ratur™ facilitates collection of blood, bile, urine, feces, dialysates, and more — all from awake and freely moving animals.

The Culex is powerful and flexible, allowing you to collect multiple types of data from individual animals. Use the Empis Automated Dosing accessory to interface with the blood collection unit, and automate the entire experiment from start to finish.

Reduce animal stress, improve productivity and increase throughput with the BASi Culex® In Vivo Sampling System.

## > FEATURES

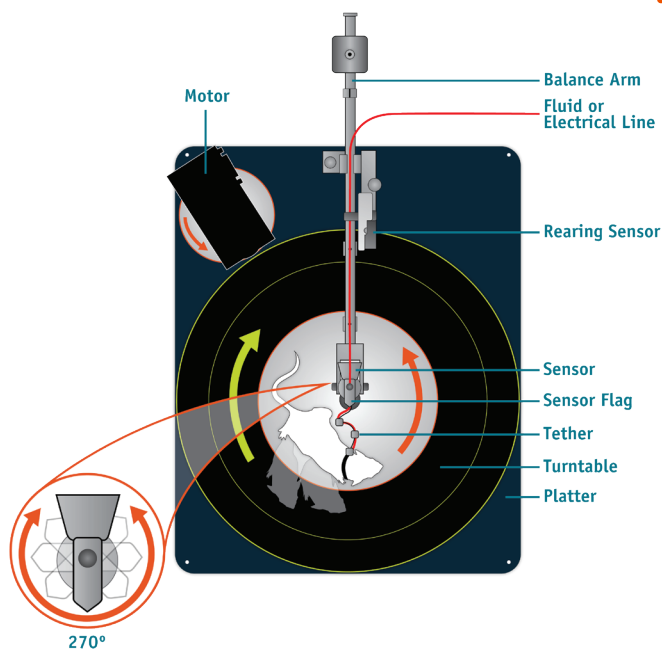
- Sample from rats, mice, or other small rodents anytime day or night
- User-defined methods allow undiluted samples
- Patented, swivel-free Ratur™ technology allows continuous fluid or electrical lines from animal to equipment
- Use almost any sampling device in conjunction with Culex, including temperature probes, ECG leads, and implantable blood pressure transducers
- Samples are collected into refrigerated (4 °C) vials
- Little or no handling means less stress for animals and technicians
- Automatically generated reports log sampling times and volumes
- Automatic "Tend" function maintains vascular catheter patency
- Volume of sampled blood is replaced by equivalent volume of saline
- Control individual sampling methods for up to 4 animals on one computer



## > THE RATUR™ SYSTEM

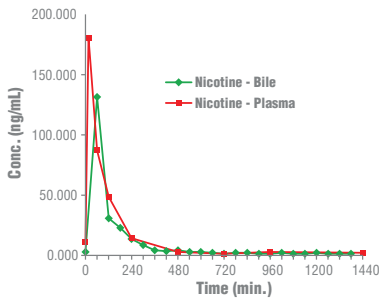
Culex® incorporate BASi's Ratur™ Movement Responsive Caging System to allow researchers the opportunity to collect multiple streams of data from a single animal. How? The lightweight tether is attached to a harness or collar on the animal. Any tubing or cables which connect to the animal run alongside this tether. The tether provides feedback from the animal's movement, via a sensor assembly above the cage. When the animal moves to a certain point, a turntable under the cage rotates in a direction opposite to the animal's movement. This counter-rotation prevents twisted connections without use of neither swivels nor commutators. All tubing and cables go directly from the animal to external devices. This system offers several advantages over traditional swivel-based systems:

- Smaller dead volumes mean shorter sampling times
- No possibility of cross-channel contamination
- No limitation on number of sampling or infusion lines
- Easy to use electrical or fiber optic cables in conjunction with fluid lines
- Measure animal activity by monitoring sensor activations

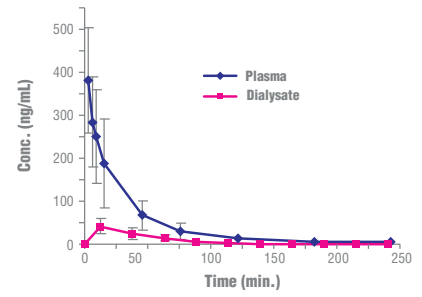


## > INTEGRATIVE PHARMACOLOGY

With the Return™ system, it's easy to collect multiple data streams from a single animal. Collect blood along with brain dialysates to measure blood-brain-barrier penetration, measure metabolites in bile, blood, and urine simultaneously, or correlate pharmacodynamic parameters with your PK curve in a single animal. This results in better data using fewer animals.



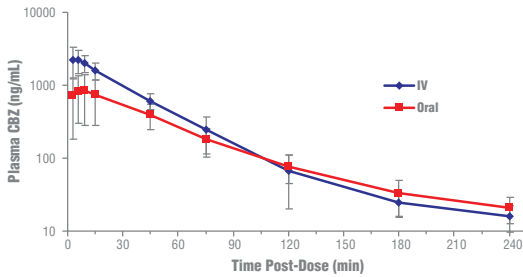
*Simultaneous Collection of Blood and Bile in Rats*



*Simultaneous Collection of Plasma and Brain Dialysates in Mice*

## > ACCURACY AND FLEXIBILITY

Culex® collects precise amounts of blood into refrigerated sample vials. Sample volumes range from 5 µL to 1 mL. Small, accurate sample volumes mean that the instrument can be used with mouse models, as well as rats, guinea pigs, or other rodents. With Culex, a single mouse can provide enough samples to generate two complete PK curves. User-friendly software makes it easy to generate sampling protocols, and tracks the exact amount of blood taken from the animal, making it easy to comply with IACUC protocols. The software logs sampling times and volumes, tracks animal activity, and records time-stamped notes input by users. An animal-specific report is automatically generated at the end of the study and collates all information in a single file.



*Bioavailability of Carbamazepine in Mice*

## > OPTIONS

BASi offers several Culex NxT™ configuration options. Choose a benchtop frame, a single station rolling cart, or a four-station rolling cart. A variety of compatible cages exist for applications from simple blood collection to combined metabolic collections. Automated dosing accessories, additional fraction collectors, or software additions may be purchased along with a basic Culex® system, or added at a later time. The BASi Culex® system you choose will depend on your research and the needs of your lab. To learn more, please visit our website or contact one of our representatives.

