



Instrumentation: In Vivo Sampling

## BASI Culex®

*"I need BASI for low-stress, accurate and practical animal monitoring and sampling systems."*

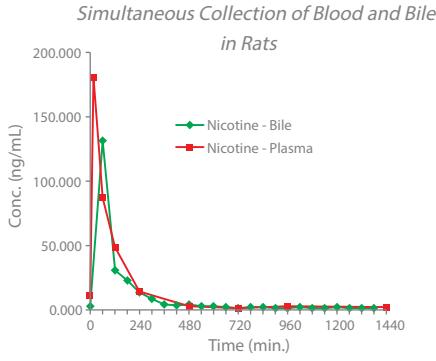
The BASI Culex® Automated *In Vivo* Sampling System was developed by BASI to collect pharmacokinetic and pharmacodynamic data from rats, mice, and other small rodents. The system is used worldwide at pharmaceutical development companies, universities, and contract research organizations. The BASI Culex® can automatically collect blood, bile, urine, feces, dialysates, and more — all from awake and freely moving animals.

The Culex is a powerful, flexible instrument that will allow 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 technician productivity and increase throughput with the BASI Culex® *In Vivo* Sampling System.



### Features

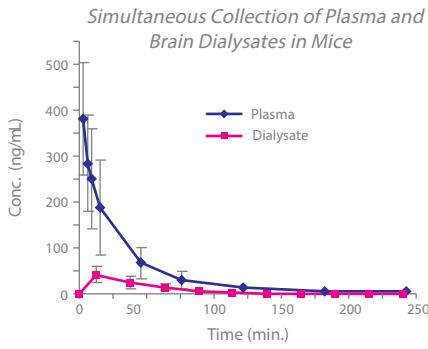
- Sample from rats, mice, or other small rodents anytime, day or night.
- User defined methods allow undiluted samples.
- Patented, swivel-free Ratum™ technology allows continuous lines from animal to sampler.
- Use almost any sampling device in conjunction with Culex®, including temperature probes, ECG leads, and implantable blood pressure transducers.
- Samples are collected into chilled (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 catheter patency.
- Volume of sampled blood is replaced by equivalent volume of saline.
- Control individual sampling methods for up to four animals on one computer.



### The Ratum™ System

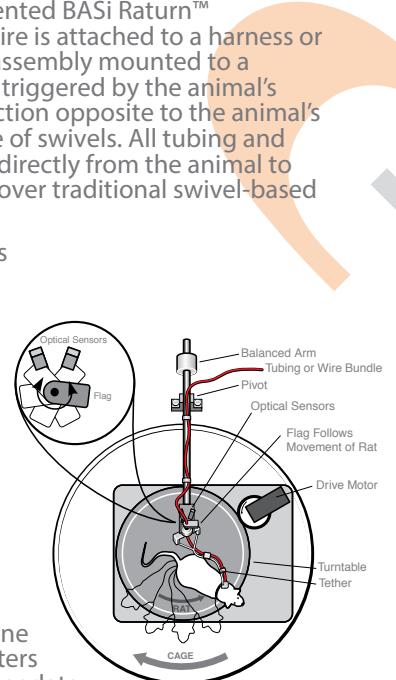
The BASI Culex® *In Vivo* Sampler is built around the patented BASI Ratum™ Interactive Caging System. With the Ratum™, a tether wire is attached to a harness or collar on the animal. The tether is attached to a sensor assembly mounted to a counterbalanced arm above the cage. When a sensor is triggered by the animal's movement, a turntable under the cage rotates in a direction opposite to the animal's movement preventing twist in connections without use of swivels. All tubing and cables pass through the center of the sensor assembly, 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 Ratum™ 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.





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## Accuracy and Flexibility

BASi Culex® samplers draw precise amounts of blood into chilled sample vials. Sample volumes range from 5  $\mu$ L to 1 mL. Small, accurate sample volumes mean that the instrument can be used to sample mice, as well as rats, guinea pigs, or other rodents. With BASi 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 the sampling times and volumes, tracks animal activity, and records time-stamped notes input by users. An automatically generated report at the end of the study collates all the information in a single file.

## Options

BASi offers several options for configuring your BASi Culex®. Choose a single-workstation "benchtop" frame with optional metabolic or cart base, or a rolling cart that accommodates up to four workstations to house up to four animals at once. A variety of cages are also available, suitable for everything from microdialysis to metabolic collections. Automated dosing accessories, additional fraction collectors, or software additions may be purchased along with a basic BASi Culex®, or added on later. 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.

## Power Requirements

- 100-240 VAC, 50/60 Hz
- 4-station cart:
  - Typical power consumption 300W
  - Requires two outlets
- Single station:
  - Typical power consumption 75W
- UPS (Uninterruptible Power Supply) recommended

## Optimal Installation Setup

- Tile or concrete floors.
- Ambient temperature of 20-25 °C, suitable for maintenance of animals.
- Good ventilation.
- Ambient humidity 15-50% non-condensing.
- Backup generator at site in case of prolonged power outages.
- Access to a high-grade UPS (Uninterruptible Power Supply).

## Specifications

Four-station cart: 36" wide x 34" deep x 81.5" tall

Single-station "benchtop": 19" wide x 19" deep x 40" tall

With metabolic base: 46" tall

With cart base: 70" tall

Computer requirements: Windows XP or later. USB port required (up to four stations per computer with USB hub).

Min/max sample volumes: 5 $\mu$ L-1mL

Sample storage temperature: 4°C

