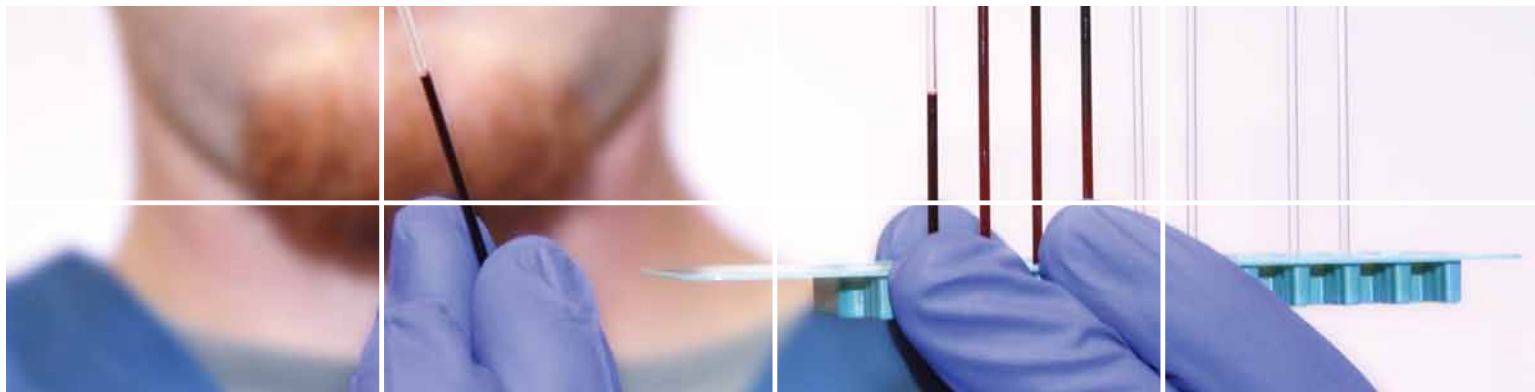


The Value of Microsampling



The volume of blood samples required for bioanalysis has been reduced over the last decade, primarily due to increased sensitivity in analytical techniques. However, there is still room for improvement in this area.

MPI Research understands how effective microsampling—the use of smaller volumes of blood for analytical purposes—can create cost and timeline efficiencies as pharmaceutical and biotechnology companies move their drug development candidates along the pathway to approval. We understand that employing successful microsampling techniques can be challenging. MPI Research is highly experienced in assisting Sponsors achieve timely benefits, given its scientific precision and expertise with microsampling.

Why Microsampling?

- Smaller sample sizes result in the ability for more collections from each animal.
- More collections from each animal result in fewer animals per study.
- Fewer animals per study result in lower study costs.
- Consistent data minimizes the number of cohort timepoints.

Types of Test Articles

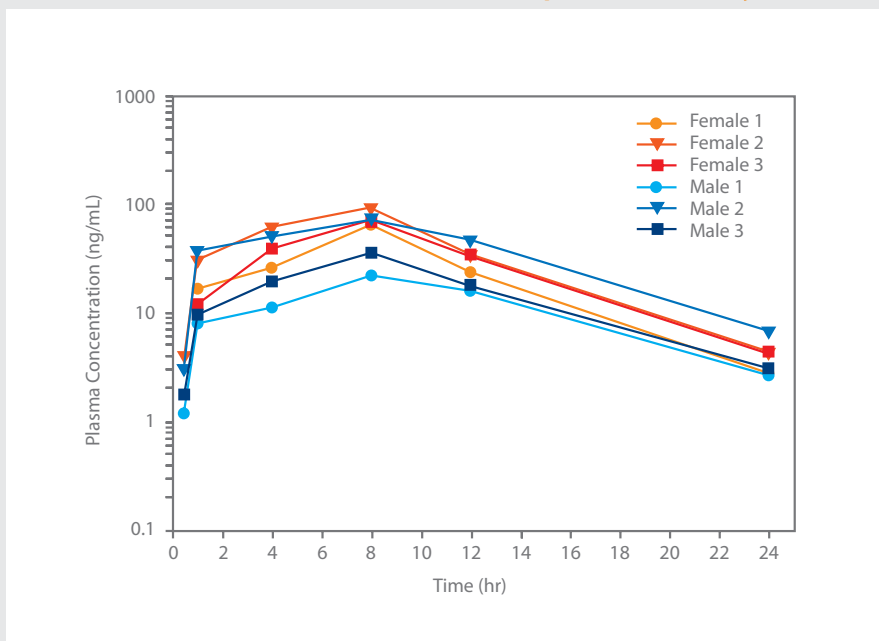
- Small molecule
- Peptides
- Proteins

Microsampling Techniques

MPI Research has developed microsampling techniques using capillary tube collections that allow sample volumes of 50 µL or less. This allows for more collections from each animal and is particularly useful for mice. Whereas the standard cardiac puncture technique would result in a single sample/mouse, and typically requires three mice at each collection interval, multiple samples can now be taken from a single animal: i.e., serial sampling. This reduces the variability commonly seen between animals to provide more accurate data. It also results in having fewer animals assigned to study, always a goal for any drug development researcher. Fewer animals on study will result in fewer resources being required to manage the study and lower overall costs.

Bioanalysis is performed using a 5 µl aliquot of sample, although volumes as little as 2 µl are feasible. Sample preparation is usually obtained by protein precipitation and sample analysis is performed on one of our 30 AB Sciex API 5000 LC-MS/MS systems coupled with Agilent ultra-high performance liquid chromatography systems. Typical limits of quantitation are 1 ng/mL, which is sufficient for most studies although lower limits are achievable depending on the test article.

PK Profile in Mice for a Small Molecule Lead Optimization Study



Ready to go beyond?

Contact us to learn more at info@mpiresearch.com.