

Mitra™ device for dried blood microsampling

The Mitra™ device is a volumetric absorptive microsampling (VAMS) tool with a simple technique for collection and quantitative analysis of dried blood samples. An accurate blood volume (exactly 10 µl) is collected into the absorbent tips, regardless of blood haematocrit.



Refer to the NC3Rs blood sampling microsite for methods of handling, restraint and blood sampling techniques, for example, for rat and mouse tail vein see the links below. For the Mitra™ method a hypodermic needle is used for blood sampling.



- Partially fill the hypodermic needle hub with blood
- Carefully place the animal back in the home cage before continuing with sample processing
- Dip the Mitra™ device into the open end of the needle hub in such a way that the tip just breaks the surface (ensure the tip is not submerged past the plastic shoulder)
- Allow the absorbent tip to fill with blood over approximately 4-6 seconds (exactly 10µl of blood is absorbed per device using this method, regardless of haematocrit)
- Allow the tips to dry at ambient temperature for a minimum of 2 hours
- The dried samples can now either be used immediately or packaged in zip lock plastic bags with silica gel and stored at ambient temperature

References

Denniff P *et al.* (2015) Quantitative bioanalysis of paracetamol in rats using volumetric absorption microsampling (VAMS). *Journal of Pharmaceutical and Biomedical Analysis* 108:61-9.

Denniff P, Spooner N (2014) Volumetric Absorptive Microsampling: A dried sample collection technique for quantitative bioanalysis. *Anal Chem* 86(16):8489-8495.