

# GentleSharp - a more humane system for small volume blood sampling in PK and toxicology research

GentleSharp Inc. is seeking partners able to help validate their GentleSharp™ low volume blood sampling technology for application in diverse animal species.

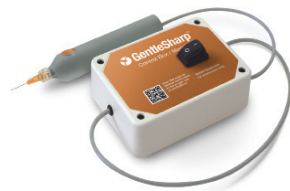
# CRACK IT Solutions

## What could the Solution be used for?

GentleSharp™ facilitates serial low-volume blood sampling (<50µl) in rats and mice. Using micro-oscillations, GentleSharp™ reduces animal discomfort associated with needle puncture, decreasing stress and enabling greater needle control and up to 15% higher collection success. This enables the same animal to be sampled at multiple time points, decreasing variability in the data and the total number of animals needed per study.

## Need for collaboration

GentleSharp Inc. is seeking partners able to provide a greater species diversity in animal subjects undergoing low volume blood sampling. GentleSharp™ has been used on both rats and mice; however, we wish to expand this to rabbits, guinea pigs, ferrets, etc. We have completed studies from blood collections from the tail artery (mouse), tail veins (rats) and submandibular (mouse). We aim to expand our current number of studies, especially with alternate target collection sites, such as saphenous and submandibular in multiple species.



## 3Rs impact assessment

- Refinement: GentleSharp™ reduces (i) the levels of plasma corticosterone in rats and mice undergoing blood sampling; and (ii) behavioural indications of stress (reduced animal movement and vocalisation). Improved tail sampling using GentleSharp™ can replace crude methods such as tail snipping (in mice), especially when cannulation is not a viable option.
- Reduction: GentleSharp™ reduces the individual variance in corticosterone levels by up to 40% over the study span in the animals, improving reproducibility and reducing the number of animals necessary in future studies. Serially sampling the same animal over time allows more complete data collection, further reducing the total number of animals required.

To find out more or to connect with the technology developer contact [crackitenquiries@nc3rs.org.uk](mailto:crackitenquiries@nc3rs.org.uk)

NC  
3R<sup>s</sup>

 GentleSharp™

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