

## AUTOMATED PHARMACOLOGICAL SYSTEM FOR RAT & MOUSE

### RAT

- Since 2001 Biotec Centre is mastering kinetics on non anaesthetized & non stressed animals
- Three animals are enough to set up blood kinetic on 10 blood/plasma samples per rat
- Two passages on the same rat are allowed IV/PO or PO/SC as example
- Access to the bioavailability on the same animal !
- Quick samples are allowed like: 1min, 4min, 7min etc. after IV
- Samples at night even at 3am are available. Imagine the cost if staff would be required at night.
- Samples during the infusion step are allowed
- All the samples are realized on the expected time, so report is easy and simplified
- Imagine the situation:
  - 3 rats/kinetic; 3 males & 3 females, 3 ways of administration, IV, PO, SC, and finally 3 doses. That represents 54 animals and one assistant in facilities devoted to surgery highly valuable work; instead of more than 500 animals and 2 assistants in facilities for traditional situation
- Imagine the reduction of the amount of compound required. It is 10 times less when compared to traditional situation.
- Less than 10% volume is collected according to EFPIA/ECVAM requirements.

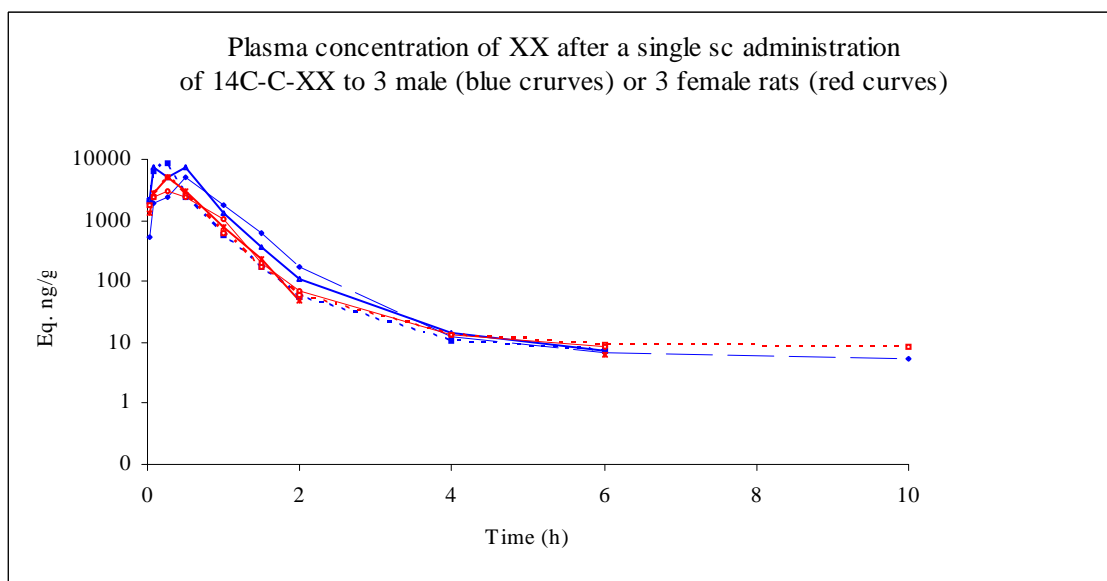
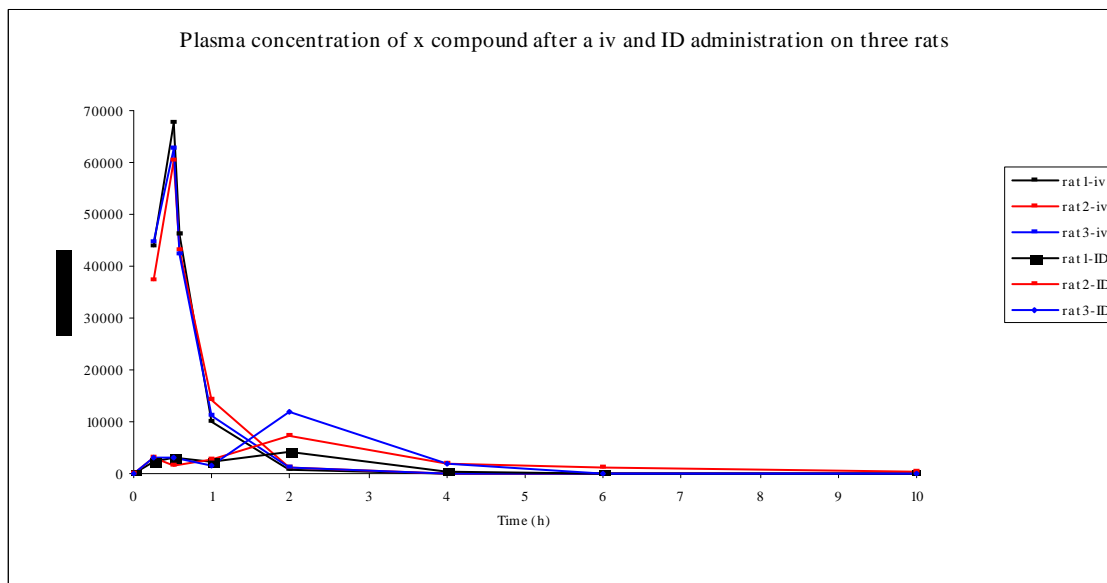
### MOUSE

- Now automatized sampling is available for mouse too
- Have a look to the comparison: automated intraperitoneal microdialysis (1animal) compared to traditional situation with 4 animals
- Situation is facilitated in case of low or medium protein binding
- T1/2 and AUC are allowed since obtained for the same animal, while in traditional situation, since the animals are different, points are not joinable. People do, but they are not allowed
- A few amount of compound is required since 3 mice are enough.
- Intraperitoneal microdialysis allows **no fluid loss** for this small animal.

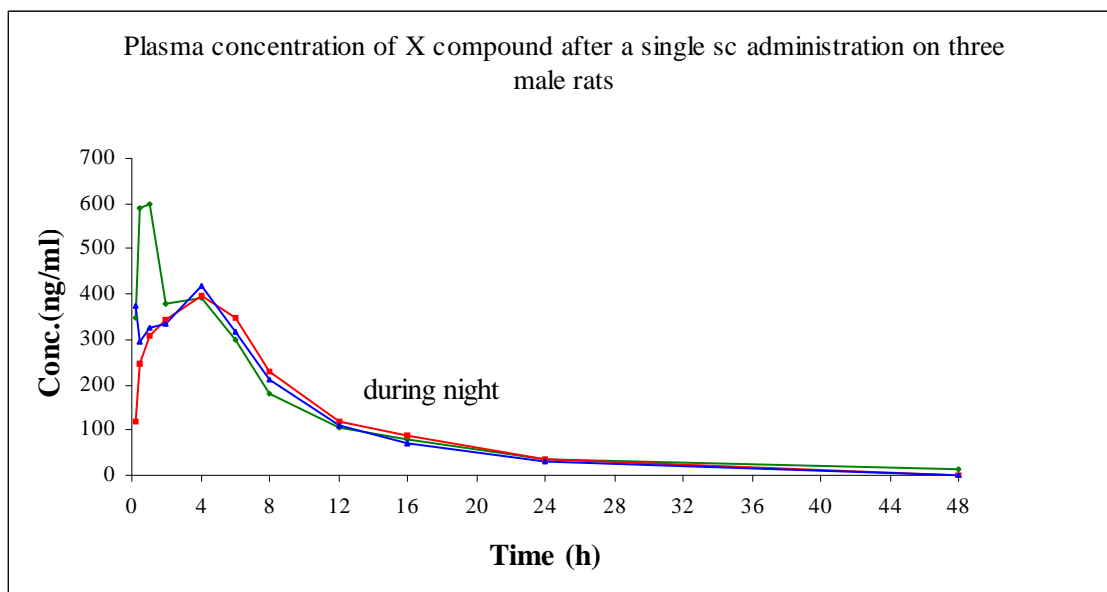
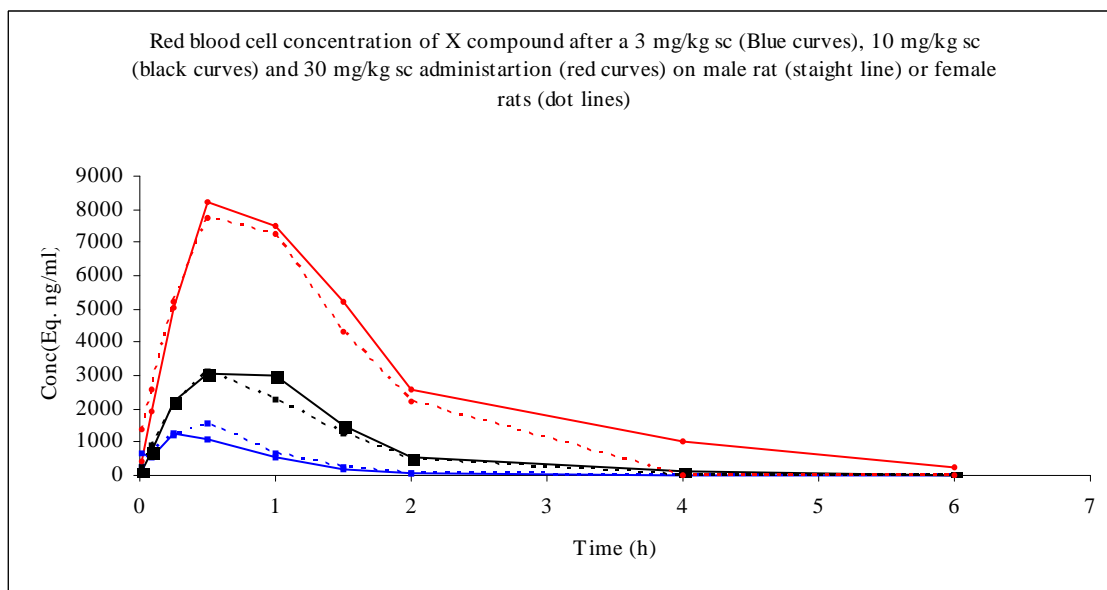
### FINALLY

These types of studies have been submitted and accepted for registration by EEC authorities.

## Current results obtained for rat



### Current results obtained for rat



**Current results obtained for mouse (automated sampling versus traditional sampling)**