PA04 - A super enriched rat cage - with increased ergonomics for staff

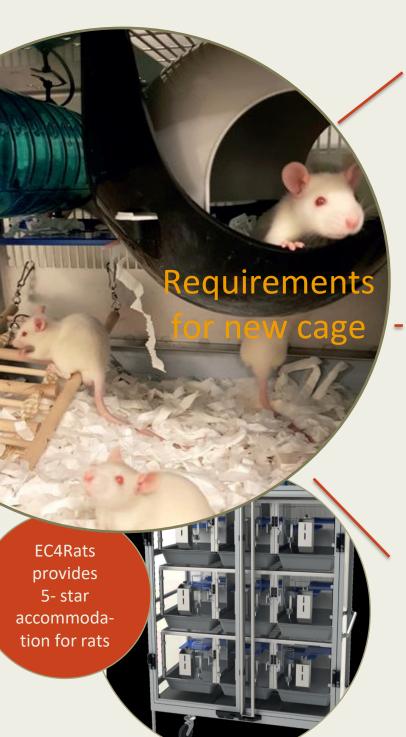


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Lundbeck's aspiration is to become a world leader within animal welfare and improve ergonomics for animal care takers

Following this aspiration, there is a need for a new way of housing rats while keeping the cages easy and simple to handle, clean and maintain. In corporation with SCANBUR, the 5-star accommodation EC4Rats cage has been developed.

9 cages can be placed in a Scantainer EC4Rats, offering high level of protection against allergens and pathogens for personnel and animals.



Improved animal welfare

- ✓ Group housing (also surgically prepared animals) and still have the option to separate, when needed
- ✓ Diverse enrichment -> Expression of natural behaviour (playing, climbing, rearing, digging, gnawing and exploring)^{1, 2}
- ✓ Social interaction in larger groups³
- ✓ Control allergens/pathogens

Animal welfare facts

- 2400 CM² (bottom + shelf)- max 5 rats < 600 g (H38.3 x W40.3 x D39.7))
- The three cages in one row can become into one large cage
 - The diverse environment supports the rats different preferences of where to sleep, and use of the enrichment
 - Improved animal welfare -> lower stress -> better results

Better ergonomics for animal care takers

- Light weight (1 kg) cage bottom -> handling weight reduced to > 60% compared to handling of Type 4 cages
- ✓ Easy to change bedding and enrichment in the cage
- ✓ Frequency of cage change reduced by 80%
- ✓ Dimension of caging system is improved, and work is in progress to optimize handling of individual animals located in top and bottom cages

Ergonomics facts

- Reduction of repeated movements
 - Avoid work-related discomfort/attrition of staff

Easy to use

- ✓ Easy to wash
- Easy mounting of enrichment
- ✓ Use as stand alone or in cabinet (ventilation and humidity controlled)
- ✓ Both bottles and automatic watering can be used

FAQ

If group housed, less The rats became very active, explorative and showed interest in voluntary interaction with the handler. The rats explore using their mouth, but does not bite, getting used to this can be challenging for the handler handler? We are still investigating if there are any issues when rats are Difficulties of handling animals becoming aggressive treated with test compounds modifying behaviour (e.g. due to compound effect? amphetamin), however so far, we have not observed a negative effect Is it possible to group house During testing of prototype, EEG pedistals were placed in the cages for the rats to explore during the postoperative period. animals with surgical implants Thereafter, during the group housing, the rats did not shown e.g. head implants? interest in head implant. No rats had any damages to implants nor any fighting wounds Is it possible to monitor Yes, it is possible if the individual rat is chipped locomotor activity (DVC) in the cage? Is it possible to keep each The scantainer can become an isolated unit cage as a isolated unit (Health perspective)? Does the enriched caging We are still investigating this. It may impact some research models. Comparing EC4Rats to cage Type 3 group housed rats, impact the research we found corticosterone level was not altered; the EC4Rats housed rats, showed less locomotor activity in novel environment (a type 3 cage with bedding only), and during amphetamin induced hyperactivity test, the effect of amphetamin was not

References

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significant at 1.5 mg/kg, but at 0.4 mg/kg. Less variance was observed for the EC4Rat cages rats in the amphetamin induced

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 Scandinavian Journal of Laboratory Animal Sciences. 2014. 40.
- Spangenberg, E, et al., Effects of physical activity and group size on animal welfare in laboratory rats. Animal Welfare, 2009. 18(2): p. 159-169.

Please see SCANBURs flyer on the Scantainer EC4Rats for more information (SCANBUR stand #53)

hyperactivity test.

