

UH IACUC Policy on Environmental Enrichment for Rodents Used for Biomedical and  
Neurobehavioral Studies  
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IACUC Approved: 10/15/15	Other Approvals:
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**Policy**

The University of Hawaii (UH) Institutional Animal Care and Use Committee (IACUC) adheres to the *Guide for the Care and Use of Laboratory Animals, 8<sup>th</sup> edition*<sup>1</sup> (or later editions), and encourages that rodents used for biomedical and neurobehavioral studies be environmentally enriched to enhance animal well-being and to facilitate the expression of species-typical behavior. Studies have shown that appropriate enrichment may contribute to higher test sensitivity and reduced animal use<sup>1</sup>.

All enrichment must be reviewed and approved by the UH veterinarians in consultation with the AVS Operations manager, and the Principal Investigators (PIs). Revisions to this Policy will be provided to the UH IACUC for their review.

Exemptions for any or modified environmental enrichment strategies should be reviewed and approved by the UH IACUC. Considerations by the UH IACUC for exemption for environmental enrichment include, but are not limited to:

- Veterinary Care – prior IACUC approval is not required
  
- Scientific studies in which enrichment might pose a confounding variable, e.g. behavioral studies
  
- Other, provide justification

**Implementation**

The following enrichment is provided to mice and rats in the AVS-operated vivaria:

- Social housing of rodents as described in the *UH IACUC Policy on Social Housing for Biomedical and Neurobehavioral Studies*
  
- Non-scented facial tissue for every cage. Tissue is changed at each spot or full cage change.
  
- Nestlets® in addition to tissue for female mice with litters. Nestlets® are autoclaved for mice with litter in sterile cages. Nestlets are changed at each spot or full cage change.

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<sup>1</sup> The Guide for the Care and Use of Laboratory Animals, 8<sup>th</sup> edition, NRC, Washington DC

## UH IACUC Policy on Environmental Enrichment

- Enviro-dri® in addition to tissue for singly housed mice at Manoa. Tissue only for singly housed mice at Kakaako. Enviro-dri® is made available to researchers to add to their cages as needed. Rodent-specific, cardboard non-glued, non-scented huts or rolls or domes will be provided to singly housed mice.
- Autoclaved commercially available toilet paper cardboard rolls. The recycled rolls provide an ideal space for hiding or resting, as well as material to shred. To date, information on the adhesives and cardboard used for the rolls are as follows. In 2018, Proctor and Gamble, makers of Charmin® toilet paper, verbally communicated (January 25, 2018 Barb from P&G) that the adhesive used in their eco-friendly cardboard rolls contain food-grade ingredients (gelatin, glycerin, water, Epsom salt and corn sugar). In addition, a 2005 internet report stated that approximately 65% of all cardboard used for most everyday cardboard products is recycled in the United States. Preliminary data from a small study demonstrated that there was no difference in fasting blood glucose of mice provided toilet paper rolls for enrichment versus those without the rolls. Based on this information, commercially available brands of toilet paper cardboard rolls will be autoclaved and recycled for environmental enrichment.
- Other approved enrichment items

### References

- Environmental Enrichment for Laboratory Rodents, Eric Hutchinson, Anne Avery, and Sue VandeWoude, 2005, ILAR Journal, Volume 46 (2), pp. 148-161
- Variables, Refinement and Environmental Enrichment for Rodents and Rabbits Kept in Research Institutions, Making Life Easier for Animal Laboratories, Victor and Annie Reinhardt, 2006, Animal Welfare Institute, WA DC
- “Roll” out the mouse enrichment. Kondo, S., 1997, AALAS Tech Talk 6:2.