

RAT HOUSING GUIDELINES

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Purpose

Rats are generally acquired as purpose-bred weanlings or adults directly from a vendor or from other research institutions. Sometimes it is necessary for investigators to breed rats in the Office of Laboratory Animal Care (OLAC) facilities or purchase pregnant rats for studies that use young pups. In all cases, rats must be housed according to conditions described in the *Guide for the Care and Use of Laboratory Animals (Guide)* unless otherwise noted.

OLAC will inform investigators of the cage types available in their animal housing area. Investigators who find a recommended cage type or housing procedure to be incompatible with the scientific needs of their research may submit a written request for the Animal Care and Use Committee (ACUC) to consider an exception to these guidelines.

Guidelines

1. The following guidelines are based on estimated weights of rats at various ages. This information will assure that, as the rats age and grow, they will meet the floor space recommendations in the *Guide*. Investigators are responsible for weighing group housed rats less than 500 grams at least once per month to ensure that animals meet housing density guidelines. Weights should be written on the back of cage cards, and animals must be separated as needed to comply with the following guidelines.

Cage Type	Cage Size (inches)	Maximum # of Rats	
Innovive rat cage	17 x 13 = 141	<100 grams	8
		Up to 200 grams	6
		Up to 300 grams	4
		Up to 400 grams	3
		Up to 500 grams	2
		>500 grams	2

Lab Products single "One Cage"	12.25 x 7.5 = 91.9	<100 grams Up to 200 grams Up to 300 grams Up to 400 grams Up to 500 grams >500 grams	5 3 3 2 1* 1*
Lab Products double "One Cage"	17.5 x 12.25 = 214.4	<100 grams Up to 200 grams Up to 300 grams Up to 400 grams Up to 500 grams >500 grams	12 9 7 5 3 3
Tecniplast rat cage	16 x 9 = 144	<100 grams Up to 200 grams Up to 300 grams Up to 400 grams Up to 500 grams >500 grams	8 6 4 3 2 2
Conventional rat cage	10.5 x 19 = 199.5	<100 grams Up to 200 grams Up to 300 grams Up to 400 grams Up to 500 grams >500 grams	11 8 6 4 3 2
Guinea pig cage	22 x 15 = 330	<100 grams Up to 200 grams Up to 300 grams Up to 400 grams Up to 500 grams >500 grams	19 14 11 8 5 4

* See 2 and 3 below.

- Based on the literature, the ACUC recognizes the social nature of rats and importance of allowing social contact over the minimum space recommendations in

the Guide. At a minimum, all rats should be paired housed (2 per cage). Exceptions are made for the following: when justified in the AUP, when under medical treatment, attrition of animal numbers in the cage, breeding purposes, or aggression.

3. The *Guide* recommends 124 in² of floor space for housing a female rat and her litter. Given rat social dynamics and a lack of any observed adverse effects in the current standard caging, UC Berkeley allows one male, one female, and their unweaned litter in breeding cages (except in Lab Products single “One Cage”).
4. The OLAC staff monitors animal health daily but is not responsible for management of rodent breeding colonies. The investigator must check all breeding rat cages and pregnant females daily, including weekends and holidays, to ensure that weaning occurs on time and stocking densities adhere to the guidelines listed above.
5. OLAC reserves the right to separate immediately, or change the cage of any animals, when animal welfare concerns exist.

References

- Institute of Laboratory Animal Research (ILAR). National Research Council (2011). [*Guide for the Care and Use of Laboratory Animals*](#) (8th edition). Washington, D.C.: The National Academies Press.
- Bean, K, Nemelka, K., Canchola, P., Hacker, S., Sturdivant, R.X., Rico, P.J. Effects of housing density on Long Evans and Fisher 344 rats. *Lab Animal* 37: 421-428, 2008
- Sharp, J., Azar, T., Lawson, D. Does cage size affect heart rate and blood pressure of male rats at rest or after procedures that induce stress-like responses. *Contemp Top Lab Anim Sci* 42: 8-12, 2003