The Swedish National Committee for the Protection of Animals used for Scientific Purposes shall advise competent authorities and animal welfare bodies on issues relating to acquisition, breeding, housing, care, and use of animals in research. The advice given is not mandatory, however can be used as support. The Swedish 3Rs Center works on behalf of the Swedish National Committee.

3R
THE SWEDISH 3Rs CENTER

Acclimatisation of mice prior to experiments

Animals that have been exposed to stressful events need to be acclimatised before they are used in experiments. Such acclimatisation aims to stabilise physiological parameters that change during stress. The stabilisation may return levels to those before the stressful event, or to new normal levels for the individual.
Consult scientific literature for guidance regarding how stress affects the strains you are going to use and the type of experiments you are going to conduct.

Events that cause stress and therefore may require acclimatisation

- Transport between facilities
- Transport within a facility
- Changes in circadian rhythm
- Regrouping

Other changes that may cause stress

- New people
- New routines
- New feed
- Changed temperature
- Changed humidity

Elements that affect the required length of acclimatisation

- Length of transportation
- Stress sensitivity, learning process and fear response of the strain
- The age of the mouse
- The sex of the mouse
- Parameters that are of importance for the experiment

Transportation

Within the facility: 1–2 days

Acclimatisation of mice subjected to transport within a facility has not been carefully studied. The available information indicates that 1–2 days often are enough to stabilise:

- Displayed signs of stress
- White blood cells
- Corticosterone

Observe that stabilisation of behaviours may require a longer period of acclimatisation.

Between facilities: 7 days

Seven days of acclimatisation after a transport to a new facility is often shown to be sufficient to stabilise:

- Stress hormones (adrenaline, noradrenaline, corticosterone and cortisol)
- Heart rate
- Body weight
- Blood sugar
- Proportion of red blood cells
- Certain parameters of the immune response

Other parameters may require a longer acclimatisation

- Blood pressure is stabilised after 3–6 weeks
- Certain parameters of the immune response are stabilised after 4 weeks
- Ability to reproduce is not normalised until after several weeks or months

Circadian rhythm

Weeks or months

Acclimatisation of mice whose circadian rhythm has been changed takes quite some time. Research has shown that it requires several weeks, or even months, for affected parameters to stabilise, including:

- Physiology
- Cognition
- Behaviours

Observe that mice may be affected by the changes between summer and winter time.

This poster is a short summary of the support material regarding acclimatisation of mice prior to experiments, produced by the Swedish 3Rs Center.
Scan here to read the complete report: