

## Protection of laboratory animals: The point of view of the animals should be considered with regard to their housing conditions in the laboratory

BfR Communication No. 003/2022 of 5 January 2022

In order to reduce pain, suffering, or stress in laboratory animals, various measures are being researched at the German Centre for the Protection of Laboratory Animals (Bf3R) at the German Federal Institute for Risk Assessment (BfR). Even though the long-term plan is to completely replace animal testing with other scientific methods, this goal is not realistic in the foreseeable future. Therefore, it is important to ensure that the living conditions of laboratory animals are as good as possible. The scientific literature has described positive effects of so-called enriched environments on the health and welfare of laboratory animals.

With a study published in the journal “PLOS ONE” (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0261876>), scientists at the Bf3R have now confirmed the previously published data on these positive effects of an enriched environment on the well-being of the animals. It could also be shown that the animals can distinguish between different stimulating objects and develop clear preferences for certain objects. When designing animal housing, the point of view of the animals themselves should therefore also be taken into account. This is also important because the welfare of the laboratory animals is an essential prerequisite for reliable, reproducible, and scientifically meaningful results.

Experts from the German Centre for the Protection of Laboratory Animals (Bf3R) at the German Federal Institute for Risk Assessment (BfR) observed female mice that were kept under either conventional or enriched conditions over a prolonged period of time using video recordings. The conventional conditions corresponded to the current standard housing of laboratory mice, while the enriched environment contained elements such as various shelters and toys as well as a running disc. The effects of the housing conditions on the behaviour of the animals and the actual use of the individual elements were examined.

The result: In contrast to conventionally kept animals, the mice kept in an enriched environment are significantly more active and show no behavioural abnormalities due to housing. They frequently interacted with the available elements, with preference given to interactive tasks such as opening a flap or removing obstacles to obtain a food reward, and the running disc. A second level built into the cage was also often used. Overall, the study shows that a more varied living environment is well accepted by the animals, increases well-being, and should therefore be an integral part of animal experiments in order to achieve more meaningful research results.

**Further information about the protection of lab animals is available from the Bf3R website**

[https://www.bfr.bund.de/en/german\\_centre\\_for\\_the\\_protection\\_of\\_laboratory\\_animals.html](https://www.bfr.bund.de/en/german_centre_for_the_protection_of_laboratory_animals.html)

German Centre for the Protection of Laboratory Animals (Bf3R): <https://www.bf3r.de/en/bf3r-homepage.html>



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### **About the Bf3R**

The German Centre for the Protection of Laboratory Animals (Bf3R) was founded in 2015 and is an integral part of the German Federal Institute for Risk Assessment (BfR). It co-ordinates nationwide activities with the goals of restricting animal experiments to only those which are considered essential, and guaranteeing the best possible protection for laboratory animals. Moreover, it intends to stimulate research activities and encourage scientific dialogue.

### **About the BfR**

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. BfR advises the German federal government and federal states on questions of food, chemical and product safety. The BfR conducts its own research on topics that are closely linked to its assessment tasks.