

Modern mice pose a challenge for medical research

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The environment in which laboratory mice are reared can drastically alter the results of experiments and may have major implications for medical research around the world, according to new Australian data presented today at a meeting of The International Behavioral Neuroscience Society.

Mice have traditionally been housed in open cages where pheromones, [chemical cues](#) in urine, and sounds could be exchanged between animals across cages.

Modern housing is based on a system of individually ventilated cages that block sounds and micro-filter the air entering each cage.

Dr. Tim Karl, at [Neuroscience Research](#) Australia, is studying the effects of open cages versus individually ventilated cages on the [behaviours](#) of genetically altered mice used in schizophrenia research (neuregulin 1 [mutant mice](#)).

“Our research so far shows that keeping mice in individually ventilated cages affects the way genes impact upon schizophrenia-like behaviour, making these mice less valid for schizophrenia research”, says Dr. Karl.

“Furthermore, animals housed in individually ventilated cages respond differentially from mice reared in open cages when given psychotropic drugs and this will have important consequences for pharmacological experiments.”

“The bulk of medical research is done using genetically altered mice. Ours is the first study to show an impact of this new housing form on a genetic mouse model for brain disorders and highlights the need for caution when comparing data between labs that house mice differently”, Dr. Karl concluded.

Laboratory rodents such as mice and rats are widely used in studies of diseases, drug research and patterns of thinking and problem-solving because they are easy to breed, can be altered genetically, and the outcomes of experiments can be extrapolated to explain certain patterns in humans.

Provided by Neuroscience Research Australia

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