

Attention: Scientific Advisory Committee on Alternative Toxicological Methods Meeting
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Private Citizen

Comments: "Dear Committee Members,

I am a neuroscientist studying how the brain makes decisions, with a focus on understanding how we integrate information, evaluate choices, and adapt our behavior. My research uses a combination of behavioral experiments, eye movement tracking, electrophysiological recordings, and computational modeling in nonhuman primates. These studies provide critical insights into the neural circuits underlying decision-making and working memory---fundamental processes that are often impaired in conditions such as Alzheimer's disease, schizophrenia, ADHD, and substance use disorders.

I want to emphasize that animal research---particularly studies involving nonhuman primates---remains vital for advancing our understanding of the brain and developing treatments for neurological and psychiatric diseases. The primate brain shares critical similarities with the human brain in terms of structure, function, and complexity, especially in the regions supporting higher-order cognition. Many key discoveries in neuroscience, from the mechanisms of visual processing to neural dynamics supporting decision-making, have only been possible through studies in nonhuman primates.

Alternative methods, such as computational modeling, organoids, and non-invasive imaging, are promising and should be pursued in parallel. However, they cannot currently replace in vivo studies when the goal is to understand how large-scale neural circuits in a living, behaving brain give rise to perception, memory, and decision-making. Monkeys are uniquely suited for this work because their cognitive capabilities and neural architectures are much closer to humans than those of rodents or other species.

Ongoing support for ethically conducted nonhuman primate research is essential to advancing both basic science and public health. Without it, our ability to translate discoveries into effective interventions for mental health disorders, neurodegenerative diseases, and brain injury would be significantly hindered.

Thank you for considering this perspective. I deeply appreciate the Committee's commitment to balancing innovation in alternative methods with the continued support of research that is irreplaceable for understanding the human brain."