

*Review Form*  
**NEI DIR Review of New Animal Study Proposals for Research Using  
Nonhuman Primates (NHPs)**  
(Must be completed prior to ACUC Review)

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**Title of Animal Study Proposal (ASP):**

Neural Substrates for Visual Decision Making in Macaques

**Principal Investigator (Name & Laboratory/Branch):**

Redacted by agreement

**Members of Nonhuman Primate Research Review Committee (NHPRRC):**

Name (Chair \*)

Affiliation

Redacted by agreement

**NEI**

**NIMH**

**NIMH**

**NEI**

**Animal Study Proposal Review:**

Yes    No

( x )    ( )    The proposed research is scientifically significant and expected to provide knowledge that will improve human and/or animal health.

Yes, the proposed research is scientifically significant, and we expect it to provide important knowledge that will improve human health. The proposed research addresses fundamental questions related to normal brain function of vision and perceptual decision making. Obtaining this knowledge is critical to understanding aberrations of brain function such as those evident in psychiatric illness, and in the long term is expected to provide avenues for the diagnosis, prevention, intervention, and treatment of psychiatric illness.

( x )    ( )    The proposed experiments are well designed to address the research questions.

Yes, the methods proposed are appropriate to address the questions posed by the research program. The proposal stated that male animals would be predominantly used and justified this with the assertion that the larger male cranium could support larger recording chambers. The committee considered this justification weak and unnecessary since sex is not a variable that can be studied with the small number of animals called for in the proposal.

( x )    ( )    Alternatives to animals could not be used.

The proposal aims to uncover, at cellular-circuit level, brain mechanisms for vision and perceptual decision making. This information cannot be readily or systematically obtained in human subjects, nor can it be obtained using available non-invasive

techniques. The information also cannot be obtained in simulations. Thus, the experiments require the use of animal subjects. The proposal touches upon the justification for the use of animals, but the committee thought this justification would benefit by being expanded.

(x) ( ) The rationale for the use of NHPs is substantiated.

Yes, the proposal provides strong and clear justification for the use of NHPs in the research. The proposed work aims to address mechanisms such as those for high-acuity stereoscopic depth perception, which are not clearly present in animal models besides non-human primates. For example, primary visual cortex has a different organization in rodents than in NHPs; the organization of primary visual cortex in NHPs is comparable to that of humans. Importantly, the proposal limits the number of NHPs to relatively few, without compromising the scientific or statistical integrity of the research. One consequence is that the study will not allow for sex to be evaluated as a factor. The lack of power with regards to sex does not represent a scientific problem at this stage of the research program; the proposal addresses how, in the future, sex will be considered.

Discussion Supporting the Committee's Decisions

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**Decision of NEI Scientific Director**

Based upon the review provided by the NHPRRRC, I (x)-Endorse ( )-Do not Endorse this ASP for submission to the NEI ACUC.

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Scientific Director, NEI

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Date