

WRITING A GREAT SPECIFIC AIMS PAGE

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- Most important part of the application
 - Reviewers have to like your idea by the time they finish reading this page.
 - The aims page provides an overview of the entire project.
 - It should also persuade reviewers that this project is important, that you are the right team to do it, and that it will advance the state of the science.

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- Establish the health problem
 - Establish the science problem
 - Explain why this is a problem: what is the gap in the knowledge? Why is this a critical gap to fill?

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- What is the long-term goal of the application or the lab?
 - What is the goal of this specific proposal? (I hope it's to solve the problem you outlined in the previous paragraph!)
 - What are the new data or advances that you are bringing to the table?
 - What is your central hypothesis?

A prediction is not a hypothesis.

If I let go of this pen, it will drop.

This pen will drop.

???????

This pen will drop because.....

It is subject to forces of gravity?

Someone tied a string around the end of it?

Invisible demons are stealing it away?

Hypothesis: The proposed research seeks to examine the relationship between *neurotransmitter A* and *neurotransmitter B* signaling in *Brain Region of Interest* and in vivo electrophysiological measures of *Brain ROI* output during the transition from chronic morphine exposure to morphine withdrawal.....additionally seeks to determine whether putative *Brain ROI* projection neurons exhibit altered basal and behaviorally-correlated firing profiles during these states.....finally seeks to determine whether the observed behavioral, neurochemical, and neurophysiological indices associated with morphine dependence and withdrawal are dependent on *Neurotransmitter A* projections to the *Brain ROI*.

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- Aims should test the hypothesis
 - Aims should have some detail but not too much
 - Aims should not introduce new characters
 - Aims should ideally result in something you can measure
 - Aims should not be dependent or too descriptive or ambitious

Characterize the obesity in the ANEUROP3-deficient mice and determine whether the mechanism is additive with the obesity in mice deficient in NEURO1. We will also determine whether the ability of NEURO2 to stimulate feeding is altered in ANEUROP3-signaling-deficient mice.

Specifically ablate central NEURO2/ SNEURO4 using TTX A chain TTXA under the control of the NEURO1-specific promoter. TO ensure that the NEURO1 neurons and not pituitary cells are ablated, we will use a CRE-lox system for tissue-specific expression of TTX with CRE under the control of enzyme 1 promoter in transgenic mice. Furthermore as enzyme 1 is expressed highest on p15-20, the neurons will only be ablated in the adult avoiding developmental complications.

Ascertain the contribution of these neurons to weight homeostasis by comparing the NEURO1-neuron-ablated mice to wild type mice and the NEURO1-deficient mice described in specific aim 1.

Furthermore, we propose to determine whether the efficacy of AH1 to mediate feeding is altered in the NEURO1 neuron ablated mice.

Determine the extent to which AH1 is downregulated by NEURO1 ablation

Determine the extent to which insulin resistance is affected by NEURO1 ablation.

Measure whether NEURO1 null mice are more susceptible to inflammation.

- Explain the overall significance of the project – why it's an important project and how it will advance the state of the science.

All grant writing is problem solving.

Reviewers have to like your idea, and it has to be based on something (preliminary data) that makes the project look feasible.

Don't propose to develop the test and then test the test.
Develop the test, then propose to use it.

Make it easy to read, with no mistakes. You are asking taxpayers for a million dollars!

NIAID samples

<http://www.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx>

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