



### **APPROACH**

#### **1. Introduction**

Write a brief introduction to the Approach section. It is probably 4-7 lines long.

This will probably include/reiterate:

1. Brief statement of the problem/gap to be solved in the grant
2. Central/overall hypothesis and (if not already clear and memorable)
3. Any background needed to understand overall hypothesis (if not already clear and memorable)
4. Model of your system, if it makes sense to show how your hypothesis fits into a larger context
5. Diagram of all aims (if not presented earlier)
6. Any preliminary results that relate to central hypothesis (not to individual aims)
7. The short-term and longer-term good things that will result from competing the Aims.

**2. Preliminary data relevant to all Aims** (if you have data, preliminary or published, that is relevant to all Aims, and that you think the reviewer needs to see now, present it here)

**3. Research Design and Methods for all Aims** (if there are methods, models, cells lines, etc. that will be used in all Aims, describe those here)

#### **Aim 1. State Aim 1 exactly as you did on the Specific Aims page**

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**Introduction to Aim 1** (write an introduction to Aim 1 that includes most or all of this, in approx. this order; it probably will be 5-10 lines)

1. Why you are doing this Aim, i.e., what goal will be met, or problem will be solved by this Aim
2. Any additional background that helps reviewer grasp the context, if not already clear and memorable
3. Working hypothesis for this Aim
4. Approach(es) to be used in Aim 1, stated generally, and perhaps for each sub-aim
5. Expected outcome(s), stated generally
6. Impact (value, potential) of the expected outcome(s); this is your link to the funder's priorities

**Preliminary data for Aim 1** (if you are presenting preliminary data aim-by-aim)

You need at least 1 piece of preliminary data for each aim; as noted above, you can present all your preliminary data together, or aim-by-aim. Try to supply an image for each piece of preliminary data. Also ideally, you want to include at least one image per page so that the reader does not face an entire page of pure text.

**Research design and methods** (you will probably organize this by sub-aim)

Writing your sub-aims as questions can be very helpful for reviewers. For each sub-aim, discuss: overall approach, methods, reagents, equipment, number of animals / subjects and how you came up with that, controls, replicates, and what will be compared to what. Finish by stating your expected outcomes and what these results will mean (ie the data interpretation) – you can do this after each sub-aim or at the end of the Aim in the section on “Expected outcomes...”.

1. Sub-aim 1
2. Sub-aim 2
3. Sub-aim 3 (3 is probably enough; 2 is fine; 4 can feel very long so be concise if you have 4)

## **Expected outcomes, data interpretation, feasibility, potential problems/caveats, alternative approaches**

- State what outcome you expect for the Aim; focus on how you will interpret the data (“In Aim 1.1, if xx cells respond to our treatment better than yy cells, we will interpret this to suggest that zzz.”)
- You might need to make it clear how the various studies within the Aim fit together to meet the overall objective of the Aim.
- Discuss any issues or not with feasibility
- You should identify at least 1 potential problem and how you will solve it or do something different.

## **Statistical analysis plan**

You can write this for each Aim or for all Aims, depending on what makes sense. If you will write a statistical analysis plan for all Aims, make sure to include a sentence at the end of Aim 1 that tells the reader that statistical considerations are described following the last Aim.

## **Aim 2. State Aim 2 exactly as you did on the Specific Aims page**

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Repeat as for Aim 1

**Timeline** (this does not need to be an extensive table; if you do make a table, 4-6 lines can be enough)

## **Summary (for a K grant, you need Future directions)**

It can be nice to remind the reader about what they just read, focusing on how the outcomes of the aims help to answer the bigger question in the field.