A warning: Not all NHMRC panels operate the same way

Write clearly: if your application is difficult to read the spokespersons will probably conclude you have not sorted out your ideas. Use subheadings, flowcharts and diagrams or whatever you can to make the arguments and research plan clear and easy to read and understand. Use most if not all of the allowed 9 pages – if you use much less the panel is likely to take the view that you could have explained your project better.

Include the impact factor and the citations for each of your publications. This is not yet mandatory, but it will get you some brownie points with spokespersons for your application. Over 100 citations over the past 5 years is usually regarded very favourably. Make sure the information provided is correct, boosted IF or citation numbers are regarded very unfavourably! Also make sure you include all authors, truncating the author list such that the CI appears to be senior author is also viewed unfavourably.

Unless you are an early career researcher, you need to present evidence of an international reputation in your field. A Nobel Prize isn’t required, but you should be able to back up your assertion that you have such a reputation (from invitations to talk at international meetings such as Gordon Conferences, citations, reviewing for international journals, collaborations with overseas labs, etc.).

Having 100 first or senior author publications over the last 5 years or a Nobel Prize will not guarantee award of a grant: This is only 25% of the score. In addition there needs to be a clear link to human health and clear innovation (25%) and a strong scientific proposal (novelty, clarity, feasibility) (50%). On the other hand, if you have 10 papers in middle-road journals you had better come up with something sensational that you have the expertise to do.

Resist the temptation to include papers that are submitted but not accepted or “in preparation”. Their inclusion is explicitly forbidden and is regarded very unfavourably. Also ensure that the publications you include are only in the specified window (e.g. 2002-2007) and not before.

You must include preliminary data, and they must be clearly distinguished from your published results. Don’t include the results of experiments without showing the proper controls – the panels show a healthy level of scepticism. Don’t suggest any experiment in your Research Plan unless you are sure (and demonstrate or state) that it will yield unequivocal results.

The medical connection must be there, even if the proposal is to do basic research. If your GRP thinks it is something that should be funded by the ARC you will miss out.

Be imaginative and novel – you need the “excitement factor” to put yourself ahead of the other very good grants before the Panel. But be wary that you do not include experiments that can be viewed by the Panel as being outside the expertise of the CI/AI team.

Don’t include someone as an AI rather than a CI when it looks as though they will have a major commitment.
There are a few unwritten ground rules that you may need to know. If you are proposing, as a major part of your proposal, to express and crystallise a protein for structural studies you need to show preliminary data that demonstrates that you have protein crystals and that they diffract satisfactorily. If a large part of what you propose to do is contingent on having crystals you are unlikely to be funded if you do not have this data. Likewise, for NMR you must present spectra showing that the protein is folded and that the resonance dispersion is good. If the structure determination is one of several aims, but the other aims can be done in parallel, and there is strong evidence of crystallography or NMR experience then it may be sufficient to show soluble protein expression as preliminary data for the structural aim. If you are going to generate KO mice you will probably have to find the funds for this elsewhere; the NHMRC will consider your application only when you demonstrably have the (verified) mutant mouse. These are tough requirements, but you can probably understand why they take this approach – if you do not have the starting material a large part of your proposal may quickly be down the gurgler.

*In vivo* experiments win out over *in vitro*. If you have to use the former, explain why and go on to the related *in vivo* experiments if feasible.

Budget. A typical budget is two people and $25-50K maintenance. Equipment is rarely funded. If you are after something different you will need to justify it carefully.

**Lastly, remember the criteria:**

**50% Scientific Quality.** Make sure your argument is clear, your experiments are well designed and that sufficient detail is provided to enable the panel to judge your proposal. Avoid statements like: ‘the function of these novel genes will be assessed using a range of standard techniques’ – say what the techniques are, include details such as gene transfer approach, and provide the panel with confidence that you have the expertise to do them and that the resources are available and suitable for the proposed experiments (e.g. does the antibody you have actually work on formalin fixed tissue sections, etc.). Provide quality preliminary data!

**25% Significance and Innovation.** For significance, tell the panel how your research may improve human health. For innovation, tell the panel why you have a competitive edge – novel techniques with which you have clear evidence of expertise (e.g. publications), novel resources (e.g. mouse strains, cell-lines), publication-preliminary data.

**25% Track Record.** Although it is difficult to put a number on this, and lots of things affect publication output, in general the minimum requirement is about 3 papers per year, at least one of which is in a very good journal (e.g. JBC). If you have less than this it is probably better to spend the time getting extra papers than going to all the trouble of preparing an NHMRC grant application! Although track record is viewed ‘relative to opportunity’ it is only major transient interruptions that make a big difference, making a point of things like teaching load or clinical load, which are likely to continue into the next grant, may not necessarily help your case. Also note that track record is not just publications, make sure you include all past grants, awards, editorial responsibilities, invitations to speak (including selected abstracts).