

Evaluation of Departmental Research Projects – PRID – PRID-J 2017

External committee and Internal Committee

General comments

The evaluating C-tee found the general standard of applications to be very high. The projects demonstrated a great degree of scientific originality and were innovative, not afraid to explore novel high-risk/high-gain ideas. Proposals have been based on departmental expertise and used it to develop into important new fields. The existing level of internal, national and international collaborations is impressive and the new proposals strive to develop further collaborative links. Most applicants exploited opportunities to obtain additional external funding, and these proposals are indeed likely to attract further funding from competitive sources and some will be attractive to the industry.

Given the clear departmental drive for continuous improvement, the following aspects could be considered:

1. Full clarity of the team involved in the execution of the proposed research. Specify who actually will do the work. Insert a timeline with the tasks and the people in charge of every task. Insert the percentage of personal time engagement, where possible.
2. Clarity in the scientific description of the project. The background and the experimental plan of a project must provide enough information to be understood by a subject expert and a generally-competent scientist alike, and also appeal to non-experts.
3. To avoid any potential intellectual property issues, the evaluating team could sign a confidentiality agreement.
3. Project risk analysis and the contingency plan should be specific. Applicants should provide a detailed description of risks and measures to be taken to solve problems, if they arise.
4. All key statements should be referenced. Applicant's own publications cannot be overlooked.
5. Applicant's CV should present facts relevant and of particular significance to the project and that support the application (e.g. scientific expertise, publications, successful completion of previous projects, and supervision of research students).
6. Projects should be realistic. Overtly ambitious work plans with respect to the allocated human and financial resources, and time for completion make the project appear unfocused and thus non-fundable.

Detailed comments

Chilin Adriana Novel TMA analogues for rescue and potentiation of defective CFTR

This project has a chance to develop a new therapeutic tool. It builds up on the departmental expertise and offers perspectives for future development. The anti-inflammatory potential of new compounds may be of interest beyond the CF but the exact prospects of attracting significant future funding has not been exploited or explained.

The team has previous results that support the project feasibility. High potential for further development, networking and attraction of new funding.

Research team is involved in other projects, which may dilute efforts.

Time span too short to complete the tasks proposed.

Strengths: Highly experienced team. Promising preliminary results.

Weaknesses: Unclear allocation of young researchers. Highly demanding work plan. No Ethical approval for the use of cells deriving from CF patients, which may delay or even derail the project.

Il progetto di ricerca è ben strutturato nella sua organizzazione e si identificano in maniera chiara e convincente gli obiettivi finali. La tematica affrontata si va a collocare in un'area terapeutica di grande interesse scientifico e con eventuali importanti ricadute socio-sanitarie. Adeguati i profili scientifici del proponente e dei partecipanti al progetto.

Si evidenziano due elementi di criticità: il primo relativo al fatto che lo stesso progetto risulta essere in corso di finanziamento da parte della Fondazione per la Ricerca sulla Fibrosi Cistica, ed il secondo relativo al fatto che non emerge la presenza di un partenariato ampio che dia un respiro internazionale al progetto.

Dalla Via Lisa An in depth investigation on novel Pt-based agents to shed light on cancer resistance mechanisms

The aim of this research project is the biological studies of new Pt complexes in vitro and in vivo but the source of these compounds is not clear. Therefore, the novelty and originality of this project is also not clear and appear limited. The potential for further development/funding and collaborative potential are not explained.

The CV does not contain applicant's expertise and skills relevant to the project.

Vague objectives and deliverables.

The different WPs are not described in details.

The risk assessment is not provided.

The team is complementary but there are no international collaborators identified. No young researchers involved.

It is not a well-described project and of limited developmental potential

Il progetto di ricerca, pur essendo strutturato in maniera chiara e identificando in modo pertinente gli obiettivi finali, presenta alcuni aspetti metodologici troppo poco innovativi per doversi collocare in un'area terapeutica tradizionalmente ad elevatissima competitività, come appunto quella oncologica. Adeguati i profili scientifici del proponente e dei partecipanti al progetto anche se in parte sovrapponibili nelle competenze. Non facile evincere il contributo scientifico apportato al progetto dai singoli partecipanti. Si evidenzia come ulteriore elemento di criticità una bibliografia non sempre aggiornata relativamente allo stato dell'arte di alcune tematiche affrontate.

Gatto Barbara Nucleic Acids alkylation by bis-chloropiperdines: nanotech empowered therapy in cancer cells

This proposal has a design of an educational project. The proposal is not particularly innovative and it is difficult to envisage a clear path to attract competitive funding. The international collaborators are named but their direct involvement is not apparent.

Strengths: Project involving a variety of complementary expertise, including international collaborations. Project feasibility supported by previous results. Good allocation of funding and human resources.

Weaknesses: Project plan details are sometimes vaguely described.

Project's value for developing an innovative, sustainable research is not very apparent and limited by the selectivity issue of the compounds.

Il progetto di ricerca è molto ben strutturato nella sua organizzazione e si identificano in maniera chiara e convincente gli obiettivi finali. La tematica affrontata, anche se non particolarmente innovativa, va a collocarsi in un'area terapeutica di particolare interesse scientifico e con eventuali importanti ricadute socio-sanitarie. Adeguati e complementari i profili scientifici del proponente e dei partecipanti al progetto. Prezioso il contesto internazionale in cui si collocano le principali collaborazioni scientifiche. Si evidenzia come elemento di criticità non adeguata integrazione tra le attività di ricerca sintetiche-meccanicistiche dei prodotti studiati e quelle relative alle tematiche del loro direzionamento.

Giron Maria Cecilia Exploring the neuroimmune crosstalk in inflammatory bowel diseases

It is an excellent proposal in an important area of increasing significance to human health.

It builds on significant expertise and has a prospect to attract further funding and collaborations and its successful completion will result in high impact publications.

It is a real translational project, from the animal model to the clinical studies.

Hypotheses are clearly described, well-detailed work plan, clear timelines.

Weakness: recruitment of patients, especially the control patients. The Task 3-2 lacks sufficient details.

Strengths: Three students allocated to participate in the project. One additional fellow to be hired. Co-funding from another grant is identified. Overall, an excellent team with complementary set of expertise and also clearly identified roles.

Il progetto di ricerca, pur essendo ben strutturato nella sua organizzazione, in alcune parti non è facilmente comprensibile per i non esperti dello specifico argomento. Si identificano, comunque, in maniera chiara e convincente gli obiettivi finali. Molto buona la descrizione dello stato dell'arte presentato a supporto del progetto con un ampio ed aggiornato corredo bibliografico. La tematica affrontata si va a collocare in un'area terapeutica di grande interesse scientifico con una chiara ricaduta anche in ambito clinico. Adeguati e complementari i profili scientifici del proponente e dei partecipanti al progetto, anche se non è sempre facilmente enucleabile il contributo apportato dai singoli.

Montopoli Monica Cross-talk between lipid droplets and autophagosomes in cisplatin-resistant cells

Innovative project about cancer research relating lipid droplets with macroautophagy and cisplatin resistance. Highly powerful confocal microscopy fluorescence methods. Involving collaboration with a biotech company.

The first part is scientifically original. However, the link to and the relevance for cisplatin resistance and the involvement of autophagy are not well explained in the background. Its "potential for breakthrough" even includes new drugs synthesis. Therefore, the proposal appears too broad.

Its completion may attract funding and the project has collaborative potential.

The team is not assembled for the project but it rather appears that the project to be made up for the team, to make up the various facets of the project. It, therefore, appears unfocussed.

Strengths: Previous experience in cisplatin resistance research. Collaboration with a biotech company.

Weaknesses: Some shortcomings in project application, especially regarding the CV of the PI and the PI's own bibliography. No opportunities for young researchers. Overambitious experimental work plan.

Il progetto di ricerca, pur essendo strutturato in maniera chiara e identificando in modo pertinente gli obiettivi finali, va a collocarsi in un'area terapeutica tradizionalmente ad elevatissima competitività, come appunto quella oncologica, senza far emergere in maniera chiara un reale impatto da un punto di vista terapeutico. Adeguati i profili scientifici del proponente e dei partecipanti al progetto. Non sempre facile evincere il contributo scientifico apportato al progetto dai singoli partecipanti in particolare per quanto riguarda gli studi di lipidomica. Si evidenzia come ulteriore elemento di criticità una non congruente valutazione dei tempi previsti per una reale concretizzazione degli obiettivi prefissati.

Polverino de Laureto Patrizia

Insight into the inhibition mechanism of α -synuclein aggregation by oleuropein aglycone: a structural point of view

Highly innovative and risky research in biophysics of protein aggregation with potential application to Parkinson's disease therapy. Previous results and expertise support the project feasibility. Existing external and international collaborations. Good potential for attracting future funding.

Part of the committee believes that the preliminary data presented are insufficient to establish the scientific significance and the innovative potential of this application. Likewise, it is hard to gauge the potential for attracting further funding or collaborations.

Weaknesses: The local team is very small. The risk analysis is a bit incomplete.

Il progetto di ricerca, pur essendo ben strutturato nella sua organizzazione e chiaro nel tracciarne gli obiettivi finali, rimane vago nel delineare in modo convincente lo stato dell'arte da cui deriva. Sicuramente, la tematica affrontata si va a collocare in un'area terapeutica di grande interesse scientifico e con eventuali importanti ricadute socio-sanitarie, anche se è difficile cogliere la reale ricaduta da un punto di vista terapeutico. Adeguati i profili scientifici del proponente e dei partecipanti al progetto, anche se non ci sono chiare evidenze di collaborazioni a livello nazionale ed internazionale.

Zagotto Giuseppe

STARS - Synthesis of triggered ANANAS release systems: a smart strategy against autoimmune liver diseases (ALD)

Use of drugs for treating liver diseases at maximally effective doses is often limited by extra-hepatic safety concerns. Targeting steroids to the liver may circumvent some of these limitations and the preliminary ANANAS data indicated selective liver tropism. However, in cases of autoimmune liver diseases, steroids may be required at the inflammation site but also in the immune organs. The project seems to be written as a feeder for the company.

The research team is composed by only an additional senior researcher experienced in nano assemblies for drug delivery. No international collaboration involved in the development of the project although it is expected to be continued by external collaboration in case of success.

No young researchers in the team.

Strengths: Highly innovative project with good potential to continue development in case of success. Clear objectives.

Weaknesses: No allocation of students. Possible risks are not identified and there is no contingency plan. No external collaborators involved during the project.

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Junior Research Projects – PRID-J 2017

Mastrotto Francesca Novel mannose receptor-targeted synthetic polysaccharides for the treatment of arthritis

Very interesting project targeting an important pathology using an innovative approach. It is clearly rooted in significant preliminary data on the SPs and the strong departmental know-how. It has a significant impact potential. Proposal exploits existing collaborations, and should lead to the development of further collaborations. It should also attract significant funding in the future.

However, the project description, especially the background, is a bit unclear. Significant parts of the project are left unexplained.

The work plan and time line seem somewhat tight, as it is very ambitious in experimental terms, involving a large amount of experiments on many samples. Since only one PhD student is involved in the project/team, it may be necessary to recruit additional scientists to accomplish the large amount of experimental work proposed. In addition to that, the complementary funds allocated seem perhaps scarce for the proposed work and they do not contemplate hiring new young personnel.

Strengths: The project is original, innovative and with a good potential to attract future funding if successful. The applicant and the team have the appropriate expertise.

Weaknesses: There are doubts regarding the allocation of human resources and funds for the large amount of proposed experimental work.

The outcome of the project may be impaired by possible interferences that have been identified and will be evaluated. No clear alternative plan if some of these interferences occur.

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Mattarei Andrea New modulators of myosin super-relaxed state to contrast obesity and associate diseases

It is an innovative project in a very important area, based on a novel concept and very interesting preliminary data. It is supported by international collaborations, which have strong potential to develop further. Successful completion of this project should attract significant funding and will ensure further development.

Young team with multidisciplinary background. Clear objectives and plan. Support from external company. Strong CV of the PI with a lot of publications

Weaknesses: Limited experience in project management. Scarce human resources for the proposed work. Limited experience in some of the proposed methods.

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Sturlese Mattia Design of novel BCL-2 family inhibitors by using fragment-based drug discovery by NMR approach

The project is very innovative and has great potential for future development, collaborations and attraction of new funding. The target and some of the methodologies are new for the department.

However, the description is not detailed enough to evaluate the project fully.

The project plan is perhaps excessively ambitious and possibly not achievable within 2 years.

Time allocation to some tasks does not appear well-balanced. Initial experimental tasks (protein production and NMR screening) are under-allocated compared to the computational analysis.

Human resources are limited given the amount of work proposed.

Funds appear quite limited in the absence of support from other grants or collaborations.

It is quite common that the specific roles of the team members have not been explained but this aspect is particularly unclear in this proposal.

Also, the financial requirements do not cover the key experiments, e.g. there is no funding for in vitro experiments, which are expensive. The requested funding for equipment needs to be itemised.

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