VALUTAZIONI PROGETTI DI RICERCA DI DIPARTIMENTO PRID – ANNO 2020

COMMISSIONE ESTERNA

Project: Role of tryptophan metabolism in experimental models of impaired microbiota-gut-brain axis
Applicant: Bertazzo Antonella

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
Seems original. Feasible but ambitious plan of experimental work. Methods and milestones appear OK. Contingency appears OK. Generally may want to think wider than dietary manipulation, pharmacological manipulation? Use of only male mice is to be questioned – current guidelines indicate use of both sexes should be standard. Co-culture angle has been performed in other studies so not so risky as I first thought. There will likely be chance to develop international collaborations on this project.

Reviewer n. 2
The project seems to be allocated in a local research network aimed to study different aspects of IBDs, using animal models and different dietary supplementations (related to Trp- and Tyr-derived neurotransmitters, mostly?). The proposal looks quite similar to other ARD project submitted to the same call (innovative or original!?). The team seems to be appropriate for the project (know-how), the project sounds feasible, not very clear the final aim (apparently to develop certain diets for people suffering IBDs?). Description of methodology is scarce, but I assume that the researchers *know* how to do it. I could not find well-developed risk assessment/contingency plan (this is not a capital sin, but sometimes helps to see how big troubles in the project can be sorted during the project). International collaborations and networking are not well established in the proposal. Not really sure about the relevance of the results to be obtained to attract future competitive funding.

Reviewer n. 3
Understanding the interactions between microorganisms and the gut and its consequences for the gut-brain axis are relatively novel and important topics. Therefore, are researched widely. The TRP aspects of the project are based on the departmental knowhow but the models are less so (or not described). This is reflected in an over-ambitious experimental plan that would require a lot more funding and man-hours. The in vivo approach seems premature and ethically not justifiably without any preliminary in vitro data. No external collaborations.

Reviewer n. 4
While the proposed project is scientifically significant, the originality and innovation are limited. The positive outcome has in my opinion the potential for representing a good optimisation of established technologies, but much more work will be necessary to trigger industrial applications

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
PI has good publication record, has expertise in tryptophan metabolism chemistry in cancer and other disorders.

Reviewer n. 2 The applicant is a long-standing associate professor specialized in pharmacology and Trp metabolism. It seems that she has a good scientific record (over 100 papers), no data provided on statistical parameters of impact (h-index, number of citations…). Research proposals granted are very limited (2 in 20 years). Therefore, suitability as PI is not high. Expertise seems good for the research proposal. **Reviewer n. 3** These are appropriate, with the research focus on TRP but less on IBD or inflammation **Reviewer n. 4** The proposed project represents the continuation of already established activities and the applicant has a mature experience in the field of metabolism.
Competence and expertise of the research team. - *Does the research **team bring complementary expertise** to the project?* - *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*
Reviewer n. 1 The team (Dalla Via, Giron) bring expertise in gut and microbiota to the project. Other participants (Crotti, Caputi) have experience in intestine, and mouse models. Team does bring complementary expertise. Collaborations – Dalla Via has international collaborations. **Reviewer n. 2** It seems that the participants might be complementary although I could not find the tasks to be carried out/supervised by each of them. No international collaborations are disclosed within the project. **Reviewer n. 3** Team members are involved in microbiome research and the senior members have a track record but in areas unrelated to the application. No international or external collaborators. **Reviewer n. 4** The team expresses a good complementarity and integration, however it is not clear whether a contribution will come from foreign groups or not.

COMMISSIONE INTERNA

Prof.ssa Antonella BERTAZZO
Titolo del Progetto: Role of tryptophan metabolism in experimental models of impaired microbiota-gut-brain axis
Obiettivo: Studiare il ruolo del triptofano nell'asse funzionale intestino-cervello, attraverso la valutazione di alterazioni del *pathway* del triptofano in un modello murino di colite ulcerosa e mediante studi in modelli *in vitro* di infiammazione intestinale.
Punti di forza: Il progetto ha un certo interesse, con potenziali ricadute nell'ambito delle patologie intestinali e nel mantenimento dell'omeostasi intestinale. La tematica affrontata si colloca in un'area della farmacologia coerente con le linee di sviluppo del Dipartimento. Il progetto coinvolge giovani ricercatori. Il progetto coinvolge ricercatori del DSF.
Criticità: Il progetto non è particolarmente innovativo, anche in relazione alle metodiche utilizzate; non sempre scritto chiaramente e di facile comprensione.
La descrizione del programma di ricerca non è ben dettagliata e non sempre gli esperimenti proposti sono chiari, soprattutto per quanto riguarda i modelli cellulari. Per esempio, vengono menzionati modelli cellulari 3D, ma non è chiaro quale sia l'obiettivo del loro utilizzo e quali vantaggi possano portare al progetto.
L'analisi di rischio ed eventuali soluzioni è carente. Ad esempio, il proponente riporta che lo studio sui modelli cellulari potrebbe comportare dei rischi senza, però, indicare quali e, di conseguenza, anche l'uso di modelli 3D in supporto a questa parte della sperimentazione non risulta chiaro. Il *focus* del progetto è sbilanciato su aspetti farmacologici e, quindi, non risulta ben definito il ruolo del proponente che, invece, risulta avere competenze prevalentemente analitiche. Dalle pubblicazioni presentate dal proponente non risulta evidente il ruolo di PI.

COMMISSIONE ESTERNA

Project: Impact of high fat diet in central and peripheral inflammatory processes in Parkinson disease: role of multiproteic complex NLRP3 inflammosome
Applicant: Colucci Rocchina

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
The described research is original and will generate significant data. This is currently a hot topic in neurodegenerative diseases. The work plan is clearly described and the plan is feasible. Contingency is considered. Could attract further funding if results are as expected. Has the potential for international collaborations (but none described). Query use of some inhibitors (what about the MCC950 inhibitor?) and the blueberry extract angle is weakest part.

Reviewer n. 2
The project aims to investigate certain aspects of inflammation in the pathogenesis of PD. Obviously, the disease is of wide interest. The applicant is from the DSF, but all the other participants are not. The project is well written (but too short) and I could find proper allocation of different tasks to different researchers. The proposal has some risk assessment and contingency plans that sound reasonable (some of them difficult to achieve within the project; e.g. modify successfully the chemical structure of a given inhibitor is not easy…). Basically, the project proposes a well-defined and small network of collaboration in Italy. Not convinced about the relevance of the results to be obtained to attract future competitive funding.

Reviewer n. 3
There is a strong research hypothesis supported by literature. The disease is an important one and any data resulting from this project would be publishable and could be exploited for further external grant applications. However, the therapeutic arm of the project using flavonoids seems to be an add on.
It seems that the Task 3 could be introduced earlier to inform the importance of NLRP3 in this experimental paradigm.
Contingency plan has been given.
However, the available funding appears insufficient for this ambitious project. The use of ">50000" other funding stated in the application is unclear.

Reviewer n. 4
The approach is scientifically valid, but with low innovation and originality. The risk assessment is weak for what concerns the point 2; it appears that there is little knowledge around INF176 (due to low med chem competence?) and the assumption of effective chemical modification is overestimated.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
Expertise in inflammation and in obesity models. Has experience in Parkinson's mouse model. PI has a good publication record.

Reviewer n. 2

The applicant has a long research career, with plenty of manuscripts published and good statistical indicators. I missed the number of research grants (particularly as PI) awarded. The two main research interests are good for the project.

Reviewer n. 3

These are relevant to the project and the publication track record is strong.

Reviewer n. 4

The competence appears sufficient from the biological point of view, but the evaluation of the pharmacological/medicinal chemistry features of the project are quite weak.

Competence and expertise of the research team.

- *Does the research **team bring complementary expertise** to the project?*
- *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*

Reviewer n. 1

Team brings researchers from another university (Pisa: Antoniolli, Blandizzi, Fornai, Pellegrini) and 2 PhD students. Team has published together recently. No international collaborations are described. Team does bring complementary expertise in high fat diet, NLRP3, bowel.

Reviewer n. 2

The four participants seem to overlap extensively in their expertise with that of the applicant. No international collaboration is explicitly foreseen.

Reviewer n. 3

Two doctoral students involved directly and 4 strong external collaborators bringing complementary expertise. No international collaborators stated.

Reviewer n. 4

Competence and expertise of other members of the team match the applicant's profile and partially lack pharmacological/medicinal chemistry required expertise.

COMMISSIONE INTERNA

Prof.ssa Rocchina COLUCCI

Titolo del Progetto: Impact of high fat diet in central and peripheral inflammatory processes in Parkinson disease: role of multiproteic complex NLRP3 inflammosome

Obiettivo: Studiare ruolo del complesso proteico NLRP3 in un modello di malattia di Parkinson indotto da rotenone. In particolare, valutare l'effetto della dieta e dell'obesità sull'attivazione dell'inflammosoma periferico NPLR3 e conseguente effetto a livello dei fenomeni infiammatori del CNS responsabili del morbo di Parkinson.

Punti di forza: Il progetto si colloca nell'ambito della ricerca farmacologica volta allo studio del coinvolgimento dei processi infiammatori periferici nelle malattie neurodegenerative centrali. La tematica di ricerca è coerente con le linee di sviluppo del Dipartimento. Il progetto, basato su di un adeguato *background* scientifico, è presentato in modo chiaro e gli obiettivi proposti sono chiaramente identificabili e realizzabili. Può avere un buon impatto sulla ricerca dipartimentale, consolidando alcune linee specifiche del DSF. Le risorse di ricreatori giovani che contribuiscono al progetto sono adeguate (2 dottorandi). Il profilo scientifico del PI e quello del team sono adeguanti per la realizzazione del progetto.

Criticità: L'originalità del progetto non è particolarmente elevata, in quanto il ruolo nei processi infiammatori del complesso multiproteico NLRP3, principale obiettivo della ricerca proposta, è ben studiato. Nonostante il profilo del PI e dei componenti del team sia adeguato, emerge uno sbilanciamento a favore di ricercatori esterni, in particolare dell'Università di Pisa. Risulta difficile identificare chiaramente i compiti dei componenti interni ed esterni del team. Le basi scientifiche dell'utilizzo di flavonoidi come potenziali agenti terapeutici non sono ben descritte. L'analisi del rischio e le possibili soluzioni è spesso non dettagliata. Dalle pubblicazioni presentante dal PI, emerge una buona produzione, ma la percentuale di pubblicazioni in cui il PI compare come autore di riferimento non è elevata. Alcune pubblicazioni risultano riportate in duplicato.

COMMISSIONE ESTERNA

Project: "Smart extraction chains" with green approaches. Active fractions and isolated compounds from timber waste for pharmaceutical, nutraceuticals, cosmetic uses
Applicant: Dall'Acqua Stefano

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
Idea seems original (although I am not in this field) and innovative. Is built on departmental know-how from PI and from the collaborators. Bioassays will be performed by the collaborators – this was weakest part of proposal. The workplan is clearly written with detailed deliverables. Seems feasible. Contingency has been considered. Project has the potential for further international collaboration and attracting funding. Already has industry involvement.

Reviewer n. 2
This is an interesting project, seeking to "recycle" natural products with different potential applications from wood industry waste (if I got it right..). The techniques are well related to green chemistry, an important goal in a time in which environment must be a critical issue. The project is based on collaboration with other experts outside DSF, including international collaborations and industry. The research project is very well detailed. I could not find any contingency plan (!?). Within the current funding programs in many EU countries, and in EU as a whole, it is plausible that future grant applications on green chemistry calls could be funded.

Reviewer n. 3
This project is outside the area of expertise of this reviewer but isolation of novel useful compounds from plant waste is certainly a worthwhile and environmentally sound idea and any products identified might be of interest. Therefore, a successful completion of such a project could attract further funding.
Collaborations are already established, including some industrial partners.
The workplan seems reasonable to non-expert. But the funding requirements are unclear.
Risk and contingency plans are in place.

Reviewer n. 4
Apparently the innovation resides in the operational sequence of the activity and represents a good optimisation approach of known technologies. There is the potential for a rapid and valid industrial exploitation of the results of this project.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
expertise in natural product extraction. Good publication track record.

Reviewer n. 2
The applicant has very good experience in the chemistry of natural products (apparently from both organic and analytical points of view). For his age, he has very good scientific trajectory. It is likely that WITH collaboration with other participants, he will drive the project to a good end.

Reviewer n. 3
Relevant expertise and very strong, current track record of relevant publications.

Reviewer n. 4
The applicant's competences and expertise are covering essentially all the applied technologies. Also, he has the experience to lead an integrated team of academic and industrial origin.

Competence and expertise of the research team.

- *Does the research **team bring complementary expertise** to the project?*
- *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*

Reviewer n. 1
Team brings researchers from Venice (Perosa, Selva) with expertise in aspects of the project. 4 other personnel listed (Zengin, Rodrigues) both international – Turkey, Porto.

Reviewer n. 2
There is some overlap between the proponent and the Italian participants. However, the project includes two participants from outside Italy with relevant contributions to the project (antioxidant and inhibitory properties of natural products, Prof. Zengin, Turkey; application of natural "green" products to cosmetic and nutraceutical fields, Prof. Rodriguez, Portugal).

Reviewer n. 3
There is a very strong team, including external collaborators with complementary expertise. It is less clear who will perform the experiments.

Reviewer n. 4
The participation of both industrial members and foreign research groups certifies the interest for this project and the potential future industrial applications.

COMMISSIONE INTERNA

Prof. Stefano DALL'ACQUA
Titolo del Progetto: Smart extraction chains with green approaches. Active fractions and isolated compounds from timber waste for pharmaceutical, nutraceuticals, cosmetic uses
Obiettivo: Ottenere estratti bioattivi e fitocostituenti mediante una "*smart extraction chain*" da materiali di scarto dell'industria del legno. I componenti purificati potranno essere utilizzati per applicazioni farmaceutiche, nutraceutiche e cosmetiche.
Punti di forza: Il progetto di ricerca si basa sulla valorizzazione del materiale vegetale di scarto, mediante tecniche di estrazione a ridotto impatto ambientale. Il progetto sfrutta competenze adeguate del proponente e dei partecipanti nazionali ed internazionali. Il grado di fattibilità è buono e si dimostra promettente la trasferibilità a livello industriale. L'organizzazione del progetto tra i vari partecipanti appare adeguata e coerente con gli obiettivi. Le risorse umane sono adeguate.
Criticità: Una parte rilevante del progetto verrà realizzata al di fuori del DSF, nell'Università di Venezia e nei laboratori di ricerca dei partner internazionali in Turchia e Portogallo. Alcune parti del progetto sono presentate in maniera superficiale, soprattutto per quanto riguarda il *background* scientifico. Inoltre, le applicazioni finali dei principi attivi che verranno isolati e caratterizzati appaiono piuttosto generiche, trovando applicazioni molto diverse in campo cosmetico, nutraceutico e farmaceutico. L'analisi dei rischi e le possibili soluzioni é scadente. Dall'analisi delle pubblicazioni del PI, si osserva una produttiva molto alta in campi generalmente pertinenti alle tematiche del progetto. Tuttavia, il fattore d'impatto delle riviste è spesso modesto. Da notare, che non sono indicati nel progetto i mesi-uomo di impegno del PI.

COMMISSIONE ESTERNA

Project: MULTIpurpose COpper-based approach to COlon cAncer therapy through EXploitation of hCTR1-mediated high affinity transPORT (MULTI_COCOA_EXPORT)
Applicant: Dolmella Alessandro

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
Project is built on a strong idea with departmental know-how. Feasibility is difficult to judge – there are lots of tasks described in the work plan (dense) but this may represent very detailed planning. The basis of developing new ligands to interact with hCTRI was lost a little in the proposal. Contingency – has been considered. No international collaborations described. Potential to attract further funding

Reviewer n. 2
The proposed project is a quite solid Medicinal chemistry approach to develop novel Cu-based chemotherapeutic agents. Besides the MC approach, the compounds will be tested in cell cultures and their dual role as imaging/radiotherapeutic agents will be evaluated. Scientifically and methodologically, the project is very good. Methodology is diverse, tasks and milestones are well described, and risks and contingency plans are identified and discussed quite well. Based on the experience of the team (many of them from DSF), feasibility is high, and opens up the possibility for future research and funding. It implies a good network of complementary researchers in Italy, although international collaborations are missing (to the best of my knowledge).

Reviewer n. 3
Unfortunately, the chemical synthesis aspects of this proposal are outside the area of expertise of this reviewer. Novel approaches to cancer treatment are certainly of importance and this project may have developmental prospects. However, the reasoning underpinning the choice of the target receptor (hCTR1), its expression on cancer vs. healthy cells and therefore the entire underpinning biology are not described. These might be sound, but it all should have been explained. This is particularly disconcerting as the same problem occurred in a previous application.
Otherwise, the research plan is very detailed, team members' involvement is described very clearly, funding and fallback position too.

Reviewer n. 4
There are elements of originality and innovation (eg the use of mix of radioactive Cu nuclides and active targeting) which could raise an industrial interest in case of success. The scientific value is provided by existing data in the same area of interest.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
PI has the track record and scientific expertise to do the chemistry.

Reviewer n. 2
The applicant is a solid Inorganic Chemist, with good-to-very good publication record. I missed some papers as leading author in the CV. His experience is good for a significant part of the project (well

complemented by Prof. Marzano and other members). I also missed previous duties as PI of research grants (!?).

Reviewer n. 3

It is appropriate for this project but with relatively few recent publications supporting its currency.

Reviewer n. 4

The proposed project encompasses many different area of research and the applicant does not cover all of them, but the team appears well structured and integrated. It is not clear why the UniCam is not included in the list of participants, while will have an active role for some of the activities.

Competence and expertise of the research team.

- *Does the research **team bring complementary expertise** to the project?*
- *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*

Reviewer n. 1

team includes Marzano, PhD student Pagotto, 4 listed other personnel (Bolzati - radiopharmcaeuticals, Esposito - nuclear engineering, Marzano - SAR on anticancer drugs focusing on cell biology, Alafort - nuclear medicine). Seem to bring together complementary expertise.

Reviewer n. 2

The team is very well complementary. International collaborations are not disclosed.

Reviewer n. 3

There is a doctoral student involved and a group of internal and external collaborators. Team members expertise, involvement in the project is clearly described, which is unique to this application.

Reviewer n. 4

There are not foreign groups involved, even though the team members have international collaborations on their own.

COMMISSIONE INTERNA

Prof. Alessandro DOLMELLA

Titolo del Progetto: MULTIpurpose Copper-based approach to Colon cAncer therapy through Exploitation of hCTR1-mediated high affinity transport (MULTI_COCOA_EXPORT)

Obiettivo: Sviluppare nuovi complessi organici del radioisotopo 64/67Cu del rame con attività antitumorale. Il progetto si fonda sul trasporto selettivo di questi complessi del rame nelle cellule cancerose del colon che sovraesprimono i trasportatori hCTR1.

Punti di forza: La tematica affrontata si colloca nell'ambito della ricerca di trattamenti in campo oncologico ed è ampiamente coerente con le linee di ricerca del Dipartimento. Il progetto si inquadra in un ambito di ricerca sui radiofarmaci ed è ben consolidata nel DSF. Il progetto è fattibile, anche grazie alle competenze complementari dei numerosi partecipanti, sia interni che esterni al DSF. Il progetto coinvolge giovani ricercatori. I compiti dei ricercatori coinvolti risultano molto ben delineati. Il profilo scientifico del PI e del team sono appropriati e coprono le varie *expertise* richieste da progetto. L'analisi dei rischi e le possibili soluzioni è sufficientemente delineata.

Criticità: In più punti, il progetto è difficile da leggere, soprattutto per i non esperti della tematica. Inoltre, il progetto appare piuttosto ambizioso, prevedendo ben 12 *task*, da raggiungere in un arco temporale di soli due anni. Ipotesi e obiettivi non sono sempre riportati in modo chiaro. Dalle pubblicazioni riportate, il PI non risulta avere un ruolo preminente nella conduzione della ricerca.

COMMISSIONE ESTERNA

Project: Natural compounds and related synthetic derivatives as inhibitors of alpha-glucosidase, LDL oxidation and protein glycation searching for new agents useful in peripheral arterial disease
Applicant: Froldi Guglielmina

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
Project addresses a significant disease and is focussed on use of natural products for treatment. Medicinal chemistry will be applied to make new analogues for testing. SAR not well described. Workplan seems appropriate and feasible in the time frame. Contingency and risk is not well described.

Reviewer n. 2
The project proposes the evaluation and potential optimization of certain substances (derived from natural sources) as agents to treat vascular issues (PAD). Targets seem reasonable: an enzyme related with glucose absorption and three different sources/targets of oxidative damage. Overall, the approach and methodology are not state-of-the-art, but are described well overall. However, the project relies too heavily in the experience and work from researchers outside the DSF (only the applicant belongs to it). In addition, risks and contingency plans are just outlined (three lines). International collaborations are mentioned (Section 2.6) but not properly integrated in the proposal. Unless the results are spectacular (!), I am not very confident about this project attracting future funding.

Reviewer n. 3
While identification of new properties of natural products represent an important aspect of pharmaceutics development, the potential of specific compounds and the relation between the pathology and their therapeutic effects are not explained clearly in the application. Therefore, it is hard to comment on the future application and fundability of this study.
In fact, this application is very much a modification of a previous one and, unfortunately, the same comments apply here: It is not clear whether the chosen compounds are novel. Some are to be synthesized based on an in-house library, but the source of others is not stated clearly.
The plan of research is unclear: Are all tests to be performed for all these compounds?
The funding of a researcher at 14K is unrealistic.

Reviewer n. 4
The proposed project is scientifically significant, but originality and innovation are quite low. Also, there is no reference to in-vivo testing for the metabolic stability and for pharmacological selectivity in view of the potential polipharmacology endowed with polyphenolic scaffolds. Also, there is no risk assessment, the cost evaluation in not complete and the breakthroughs are not clearly defined (the publication of two paper can be considered a key breakthrough of the project?!)

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
Expertise in cardiovascular and natural products. Reasonable track record. Appropriate for the project

Reviewer n. 2

The research CV of the applicant is not very good (since the beginning of Ph.D. thesis, 34 years ago, H index of 18 and less than 1000 citations). Some articles as leading author, with low impact. It seems that a significant fraction of the experimental work lies within her experience, although contribution from Prof. Tonelli will be quite large as well. I could not find her previous projects as PI.

Reviewer n. 3

Appropriate for the proposed work but not extensive in terms of recent publications.

Reviewer n. 4

The applicant seems to have not high competence in terms of med chem and SAR evaluation, which form an important part of the project.

Competence and expertise of the research team.

- *Does the research **team bring complementary expertise** to the project?*
- *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*

Reviewer n. 1

team brings together Cusinato, Pagetta, Marin. Also Tonelli and Cichero (Genova) and 1 other personnel. Brings complementary expertise – medicinal chemistry with pharmacology. International collaborations are identified and planned during the project.

Reviewer n. 2

The team is quite complementary. Apparently, international collaborations will be developed although their roles in the project are not stated at all.

Reviewer n. 3

There is a good, complementary team, including collaborators in Genoa. No international partners.

Reviewer n. 4

The team members bring an integrated experience to the team; however it is not clear whether the mentioned international collaborations will be established or not.

COMMISSIONE INTERNA

Prof.ssa Guglielmina FROLDI

Titolo del Progetto: Natural compounds and related synthetic derivatives as inhibitors of alpha-glucosidase, LDL oxidation and protein glycation searching for new agents useful in peripheral arterial disease

Obiettivo: Valutare il ruolo di alcuni composti naturali e derivati di sintesi come potenziali agenti terapeutici nelle arteriopatie periferiche.

Punti di forza: Il razionale è interessante con potenziali ricadute per la terapia di malattie vascolari associate al diabete. La tematica è coerente con le linee di sviluppo del Dipartimento. Il PI ha un *background* significativo nella caratterizzazione farmacologica di composti di origine naturale. Il progetto ha un buon grado di fattibilità, anche grazie alle competenze dei partecipanti esterni al DSF.

Criticità: Il progetto non è particolarmente innovativo, né per quanto riguarda la scelta delle molecole oggetto dello studio né per le metodologie che verranno impiegate. Il progetto, in una forma molto simile, è già stato presentato lo scorso anno. Il PI non sembra avere le competenze chimico-farmaceutiche indispensabili per sviluppare la parte più interessante del progetto, quella riguardante le correlazioni struttura-attività. Il progetto non coinvolge giovani ricercatori. Il progetto coinvolge in maniera significativa personale tecnico del DSF, il cui ruolo dovrà essere meglio definito nel più ampio contesto dipartimentale. L'analisi dei rischi è quasi assente.

COMMISSIONE ESTERNA

Project: Investigation on the photostability of cannabinoids and of novel psychoactive substances in seized products and in hair samples
Applicant: Miolo Giorgia

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations, applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1
The project seems scientifically original (but not my area) and built on knowledge from the PI. There is an identified knowledge gap in forensic analysis of novel psychoactive substances which are under-studied. Workplan is reasonable well described with milestones and deliverables identified. Risk is addressed but little contingency described. Feasibility is difficult to judge due to my lack of experience in this area.

Reviewer n. 2
The project deals with the photostability of some drugs (NPS and cannabinoids) related with forensic, judicial and health issues. Therefore, it is of some interest, although the innovation (the main aim and the methodology) is not clear. The project networks researchers from DSF (the applicant), other Italian institutions and one from UK. Consequently, only a part of the project will be carried out/supervise in the DSF. The project is written well, includes essentially all the elements necessary for evaluation (including risk assessment), and it is overall feasible. Future funding could be possible.

Reviewer n. 3
This application appears to be exactly as one submitted last year. As no comments were made regarding any modifications (especially addition of preliminary data), the same comments should apply to this version. If ssimilar work has not been or is not being done elsewhere, this proposal appears to have originality that may give the Department some competitive advantage.
The objectives are clear and achievable. The specific methodology seems to be fairly standard and well established in the applicants' labs.
All the work is apparently to be done by the team members. I am not sure how realistic this is.
The funding component for the equipment is rather substantial but consists of non-specialised items. Is this not provided by the Department? The publication and travel funding requests are also on the high side compared to the consumables.

Reviewer n. 4
Innovation and originality of the project are limited, but it's on the other hand very significant from a scientific and social point of view.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
Well published in the area. Expertise in forensics and photosensitisation, stability etc.

Reviewer n. 2
The applicant seems to have good experience in photostability and transformation of (bio)organic substances including drugs. Her research CV contains about 50 publications, most of them in very specialized journal with low impact (overall statistics, i.e. h-index, number of citations…is not provided).

Overall, she seems quite appropriate for the project, although expertise from collaborators will be surely needed. No information about previous projects as PI was found in the application. **Reviewer n. 3** Appropriate and current **Reviewer n. 4** The experience and the know gained in the field during the years are clearly shown in the CV and fully cover the required competence for the proposed activities.
Competence and expertise of the research team. - *Does the research **team bring complementary expertise** to the project?* - *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*
Reviewer n. 1 Team includes Favretto (Padua) and Vogliardi (DSF) plus 2 other personnel Frison and Schifano (Venezia & Herts). Bring complementary expertise in evaluation of hair samples. International collaboration in place. **Reviewer n. 2** The team is very adequate and highly complementary. It includes a researcher from UK with important roles in the project (Task 3, 24 months). **Reviewer n. 3** The team is excellent, clearly covering all the required aspects of the project and involves an international collaborator. **Reviewer n. 4** The team has an integrated and complementary competence, particularly for what concern the legal aspects and the availability of products of different origin. Potentially, the international collaboration could be extended based on obtained results; at the moment this latter aspect seems limited to provision of new compounds.

COMMISSIONE INTERNA

Prof.ssa Giorgia MIOLO

Titolo del Progetto: Investigation on the photostability of cannabinoids and of novel psychoactive substances in seized products and in hair samples

Obiettivo: Valutare la fotostabilità di cannabinoidi sintetici e nuove sostanze d'abuso in prodotti sequestrati e campioni di capelli.

Punti di forza: Il progetto è sicuramente interessante in ambito forense e potrebbe rappresentare una nuova linea di ricerca del DSF in ambito analitico. Ipotesi ed obiettivi sono chiari e il progetto è fattibile. Il PI ha una consolidata esperienza nello studio della fotostabilità di molecole bioattive. I partecipanti, anche internazionali, possiedono competenze complementari e i loro compiti sono ben delineati.

Criticità: Il progetto non sembra del tutto coerente con le attuali linee di sviluppo del DSF. Risulta che il ruolo del PI riguardi prevalentemente la preparazione dei campioni, mentre gli studi analitici verranno condotti al di fuori del DSF. Lo studio della fotostabilità di sostanze da abuso è già stato riportato in letteratura e anche dal proponente. Un progetto molto simile è stato presentato dal PI l'anno scorso. Allo stato, gli ambiti di sviluppo dipartimentale risultano piuttosto limitati, considerata l'estrema specificità del progetto. I costi del progetto (37.000 euro) non sono coerenti col finanziamento messo a bando (30.000 euro). Alcune delle pubblicazioni riportate si riferiscono a contributi a convegni.

COMMISSIONE ESTERNA

Project: Mitochondrial targeting as a novel strategy to overcome osteosarcoma chemoresistance
Applicant: Ragazzi Eugenio

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**? Has the project a significant **impact** for future development? Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages, tasks, milestones and timeline appropriate** and in agreement with deliverables?*
- *Are the risk assessment and the contingency plan properly considered?*
- *This project has perspectives for **international collaborations**, **applications, networking?***
- *Has the project the character of **start-up research** that can **attract in the future competitive and non-competitive funds**?*

Reviewer n. 1

The project proposal is well written and is based on significant disease problem. Seems original and innovative in approach. The workplan is detailed and clear. Risks and contingency are well addressed. Feasibility – quite an ambitious workplan

Reviewer n. 2

The project will attempt to decipher the role of mitochondria in the drug-resistance of certain (common) cancers. This is a basic (mechanistic) question with potential application in the improvement of cancer treatment. It will include a multidisciplinary approach using cell models and patient samples. The project is based on the experience of the research team, both in DSF and in other research entities, and includes explicitly international collaborations. Overall, the project methodology, WP and tasks are well described, risks and contingency plans are also briefly but well outlined. Thus, overall, it seems rather feasible. It might be suitable for attracting future funding.

Reviewer n. 3

This proposal tackles an important problem of osteosarcoma treatment and the proposed mitochondrial approach is interesting and well anchored in the literature. If successful, it could open new avenues for funding and for academic as well as industry collaborations. The work packages are well described and logical, methodology is sound and techniques and equipment accessible locally or through collaborations. However, the five work packages are full, and it seems unrealistic that all this work could be done in the 24-month timescale. It is not clear who, within the three collaborating teams, would perform these time-consuming experiments. The description of a Fellow and costing required presumably for this staff member at 20K, with 8K left for consumables appear unrealistic. This reduces the enthusiasm for the proposal as it seems unworkable.
International collaboration in place.
There is a risk assessment and contingency plan for experiments.

Reviewer n. 4

The proposed activities fit all the requested parameters, except for the last one, which now can be hardly envisaged. Furthermore, the project focus on a particularly important unmet medical need.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1

Well published, appropriate expertise for the project.

Reviewer n. 2

The applicant is a long-standing researcher, with a nice research CV. Seemingly, he has not large experience as leading researcher (based on the data provided for his publications or previous research grants as PI). He has experience in different topics, including the physiopathology of different diseases,

and particularly, data analysis of certain complexity. Therefore, it seems that the success of the project will rely heavily on the performance and experience of other participants and collaborators.

Reviewer n. 3

Extensive publications list relevant to the topic but not very current. Mitochondrial expertise less obvious.

Reviewer n. 4

The competence and expertise of the applicant cover most of the proposed activities and technologies, either directly or through a basic knowledge.

Competence and expertise of the research team.

- *Does the research **team bring complementary expertise** to the project?*
- *Is the project involved in **international research collaborations** that can significantly contribute to the success of the project?*

Reviewer n. 1

Team involves Montopoli and Salvati plus one phd student Giacomini. Other researcher (Baldini) from Bologna. Three other personnel Avnet, Di Pompo and Brisson (France). Team brings complementary expertise in mitochondrial pathways and chemotherapy resistance. International collaboration in place and will contribute to success.

Reviewer n. 2

The research team certainly has complementary experience, particularly regarding experimental studies. Some international collaboration are mentioned, although most of the work and analysis will come from Italian research centres-universities.

Reviewer n. 3

The research team includes local senior colleagues but also a doctoral student and external collaborators, including one international. They have a strong set of complementary expertise.

Reviewer n. 4

The team has a well organised and integrated experience, involving also international groups.

COMMISSIONE INTERNA

Prof. Eugenio RAGAZZI

Titolo del Progetto: Mitochondrial targeting as a novel strategy to overcome osteosarcoma chemoresistance

Obiettivo: Studio dei mitocondri come bersaglio per superare la chemioresistenza del cis-Pt e doxorubicina durante la terapia dell'osteosarcoma.

Punti di forza: ll progetto, che si colloca nell'area della farmacologia oncologica, risulta nel complesso ben strutturato, basato su di un solido *background* ed identifica in modo pertinente gli obiettivi finali. È coerente con le linee di sviluppo del Dipartimento e l'impatto del progetto sul DSF può essere significativamente positivo. Tra i partecipanti è presente un giovane ricercatore. Il team è interdisciplinare e presenta anche collaboratori internazionali. L'esperienza del PI appare adeguata. L'analisi dei rischi e le possibili soluzioni risultano ben delineate.

Criticità: Alcune parti dell'attività di ricerca non sono descritte chiaramente. Per alcuni aspetti, il progetto sembra troppo ambizioso. Anche se le competenze del PI nel campo di applicazione sono evidenti, le pubblicazioni riportate non mostrano un ruolo scientifico preminente del PI.

VALUTAZIONI ASSEGNI DI RICERCA DI DIPARTIMENTO DI TIPO B ARD-B – ANNO 2020

COMMISSIONE ESTERNA

Project: Chitosan-based breast cancer-like cultures as tool for *in vitro* studies on anticancer drugs and electrochemotherapy
Applicant: Bazzolo Bianca

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations, applications, networking?***

Reviewer n. 1
Tests on Doxo could be probably run in a shorter time; also, the cell viability could be assessed at time >72 hrs in order to assess potential diffusion effects. Limited innovation associated to high scientific interest for the optimisation of the technology in view of a potential wider application in cancer research

Reviewer n. 2
The proposal is attempting to tackle an important problem of the lack of cancer models in vitro resembling the in vivo situation. Why the suggested scaffolds may help recreate the ECM interactions, the model is to include just cancer cells. So, it should not be presented as resembling the in vivo situation, where cancer cells interact with stromal and infiltrating immune cells. The main thrust is on the scaffold preparation and characterisation. The ECT is not explained sufficiently.
The initial part of the project is to be undertaken in Napoli, so it is not clear whether it is based on the local expertise and whether it will support its acquisition and development.
Reference list not provided albeit the referencing system allows identification of relevant publications.
The tasks are described clearly and in detail.
The potential collaborators have been identified.

Reviewer n. 3
Overall, the project is interesting and multidisciplinary. However, it is not highly innovative, since it intends to apply the CS-based scaffolds for 3D cell cultures (something that is seemingly done for other type of cell cultures). The project seems feasible considering the expertise of the applicant and the research group, although the amount of work seems too large for the applicant plus mentor/participant in 12 months. Methodologically I do not see big issues or concerns. Potential of collaboration with industry and international collaboration is foreseen.

Reviewer n. 4
The idea seems to be original and innovative and the proposal is well written. Plan is feasible and the applicant has expertise to make the project successful. Methods and workplan is clearly detailed.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**? Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
Solid basic knowledge and experience in applying the required technologies and methods. The proposed work is a continuation of the PhD thesis work where new material will be utilised and methodologies will be developed and consolidated.

Reviewer n. 2
The applicant's considerable expertise and experience from her PhD is aligned well with this proposal

Reviewer n. 3

The expertise of the applicant seems appropriate, including several techniques within Molecular Biology, Cell Biology and Biochemistry relevant for the project. **Reviewer n. 4** Scientific expertise in 3D cultures and preliminary results. Applicant has required skills and collaborations in place to do the work.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team incorporates all the required skills and expertise in different labs **Reviewer n. 2** It is appropriate for this proposal. **Reviewer n. 3** The team is very well selected and complementary, with experts in Cell Biology/Molecular Biology, Biomaterials and Polymer Science. **Reviewer n. 4** Yes, the team bring complementary expertise – biomechanics expert (Gloria), synthesis of scaffold material (Dettin) together with the mentor (Conconi).

COMMISSIONE INTERNA

Dott.ssa Bianca BAZZOLO
Titolo del Progetto: Chitosan-based breast cancer-like cultures as tool for *in vitro* studies on anticancer drugs and electrochemotherapy
Obiettivo: ottimizzare dei modelli cellulari tumorali 3D che hanno come scaffold il chitosano derivatizzato con peptidi autoassemblanti, per ricreare l'ambiente extracellulare tumorale utile per lo screening di farmaci antitumorali.
Punti di forza: La tematica di ricerca è coerente con le linee di sviluppo del Dipartimento. Il modello cellulare che verrà ottimizzato nello studio potrà essere utilizzato come strumento per lo screening di farmaci antitumorali. Il progetto prevede la collaborazione con altri gruppi di ricerca dell'Università di Padova e di centri di ricerca nazionali. Ipotesi e obiettivi sono chiari così come la progettazione sperimentale. Il progetto ha un buon grado di fattibilità. Il profilo scientifico del proponente è adeguato così come quello dei partecipanti al progetto. Durante il colloquio, la proponente ha presentato in modo chiaro il progetto.
Criticità: Il progetto è sostanzialmente una prosecuzione del progetto di Dottorato della proponente, anche se su sistemi polimerici diversi. L'analisi del rischio non è sufficientemente dettagliata e le possibili soluzioni risultano piuttosto generiche. L'evoluzione temporale del progetto non è descritta sempre in maniera coerente.

COMMISSIONE ESTERNA

Il progetto non è stato ammesso alla valutazione della commissione esterna.

COMMISSIONE INTERNA

Dott. Giovanni BISELLO
Titolo del Progetto: The interplay between dopamine, □-synuclein, and aromatic L-amino acid decarboxylase: implications in Parkinson disease

Obiettivo: caratterizzare l'interazione tra l'enzima AADC e α-sinucleina. Lo studio si basa su evidenze riportate in letteratura dell'interazione e mira ad identificare le strutture proteiche coinvolte in questa interazione.
Punti di forza: La tematica di ricerca è coerente con le linee di sviluppo del Dipartimento ed il progetto proposto potrà fornire informazioni utili per la comprensione dei meccanismi molecolari coinvolti nella malattia di Parkinson, nonché per l'individuazione di nuove strategie terapeutiche. Il progetto è interessante ed il profilo scientifico dei partecipanti adeguato.
Criticità: Gli obiettivi e le ipotesi sono riportati in modo non chiaro. Il disegno sperimentale sembra abbastanza complicato e probabilmente alcune parti del progetto non potranno essere facilmente sviluppate, in quanto il proponente non ha una diretta esperienza e competenza delle metodiche proposte. Le competenze scientifiche e tecniche del proponente non sono chiaramente riportate, per cui risulta difficile capire se esse siano appropriate alla realizzazione del progetto. Il proponente non è riuscito a fornire chiarimenti al riguardo durante il colloquio. Nel colloquio sono emerse le difficoltà di realizzazione del progetto da parte del proponente, già evincibili dalla lettura del progetto.

COMMISSIONE ESTERNA

Project: Crosstalk between toll-like receptor 4 and catecholaminergic system in inflammatory bowel diseases
Applicant: Cerantola Silvia

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations, applications, networking?***

Reviewer n. 1

The work is completely based on the comparison between wt and ko animal models, and no mention at all is made on the use of TLR4 ligands. Also, the time required to complete the proposed studies seems a bit long.
In order to have a greater impact, the study should include the use of TLR4 ligands and experts from this point of view should be enrolled in the team

Reviewer n. 2

This is a well-defined and quite well described proposal based on departmental know-how and offering collaborative and developmental opportunities. The animal experiments are well described but the significance of the third task involving clinical material is less clear.
The risk analysis and contingency plan should consider the possibility whereby TLR4 is not involved in IBD.
Reference list not provided albeit the referencing system allows identification of relevant publications.
There is an additional financial support from the mentors.

Reviewer n. 3

The project is built upon previous work from the research team investigating the role of TLR4 function, ENS and dopaminergic signalling in mouse models of IBD. Therefore, it proposes a reasonable and interesting extension of this research. An interesting point is to use the data derived from the project to search for biomarkers of IBD in humans. Methodology is well designed and seem feasible for 24 months. Potential of collaboration with industry or international groups is very limited.

Reviewer n. 4

The project seems original and is built on prior knowledge of the area from studying the enteric nervous system in the same transgenic mice. The aims are difficult to understand particularly the perceived interaction between catecholamines and TLR4 (the rationale could be more clearly described). Work package and tasks are very detailed but are hard to decipher. Feasibility is difficult to judge, but this seems ambitious in the time-frame. Good potential for international collaborations through conferences etc.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1

A good biological background and technical experience required for the proposed studies. The proposed work is an extension of the applicant's PhD work and the described experience appears quite well consolidated

Reviewer n. 2

This is very good and appropriate.

Reviewer n. 3

the expertise of the applicant is good for the project. It is expected that she will gain further expertise along the project. However, it seems she will share many of the research tasks with the Mentor/comentor. **Reviewer n. 4** The applicant has the required expertise and has worked on the animal model. The applicant will be sufficient and appropriate.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The score is based on the proposed activities; clearly, we need to take into consideration the suggestion for expanding the breath of this study to the use of TLR4 ligands **Reviewer n. 2** The research team brings appropriate and complementary expertise to the project **Reviewer n. 3** Mentor and co-mentor are well compatible (animal models vs. human studies). **Reviewer n. 4** The mentor (Giron) has a track record in similar projects, Savarino (co-mentor) brings clinical expertise to the project.

COMMISSIONE INTERNA

Dott.ssa Silvia CERANTOLA
Titolo del Progetto: Crosstalk between Toll-like Receptor-4 and catecholaminergic system in inflammatory bowel diseases
Obiettivo: studiare l'interazione tra i recettori Toll-like 4 (TLR4) e il sistema catecolaminergico nei processi infiammatori intestinali.
Punti di forza: Il progetto si colloca nell'ambito della ricerca farmacologica volta allo studio dei meccanismi coinvolti nei processi infiammatori intestinali cronici ed è coerente con le linee di sviluppo del Dipartimento. Risulta essere ben strutturato, basato su di un solido background e gli obiettivi finali sono stati presentati in modo chiaro, sia nel testo del progetto che dal proponente durante il colloquio. Il progetto ha un livello di originalità e innovatività buono e può essere sviluppato in buona parte all'interno del DSF, dove è disponibile la maggior parte del know-how e tecnologie necessarie per il suo svolgimento. Le competenze scientifiche e tecniche del proponente ed i profili scientifici dei partecipanti sono adeguati per la realizzazione degli obiettivi del progetto.
Criticità: Piuttosto generica l'analisi dei rischi. Non è molto chiaro il vantaggio del nuovo modello di infiammazione rispetto a quello già messo a punto nel DSF.

COMMISSIONE ESTERNA

Project: Influence of tumor microenvironment in chemotherapy: focus on glutamine metabolism to counteract cisplatin resistance
Applicant: Cocetta Veronica

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations, applications, networking?***

Reviewer n. 1
The proposed project focus on an important aspect concerning an established cancer treatment and if successful could represent a step forward in terms of survival and quality of life for treated patients

Reviewer n. 2
Interestingly Cocetta and Bazzolo applications have a common theme and closer interaction or at least crosstalk between scaffold and TMI could benefit both projects.
This proposal explores the glutamine metabolism and CAA in breast cancer resistance to cisplatin. Unfortunately, the citations in the State of the Art paragraph are nor referenced properly. Such technical issues preclude a proper evaluation of applications. In any case, there is very little preliminary data included to indicate that this hypothesis is correct, and the risk analysis and, albeit recognizes that glutamine may not be a factor, is not providing a convincing contingency plan for such an eventuality. Tasks are complex and their completion in the allocated periods appear unrealistic.

Reviewer n. 3
The project aims to investigate the metabolomics/secretomics of cancer cells:adipocyte interactions and the role of metabolic changes associated with resistance to cisplatin therapy. The ultimate goal is the identification of biomarkers cisplatin resistance and to identify metabolic targets to overcome this resistance. The project seems to be of high interest due to the wide application of this therapy and the problem of developing resistance. The methodology is very reasonable, multidisciplinary although limited to cell cultures (this is reasonable for a 12-month project). It is well based on departmental experience (Mentor) as well as on excellent international collaborations (Harvard).

Reviewer n. 4
Proposal seems an original angle to explore and is built on departmental know-how. Objectives are clear as is the hypothesis. Plan seems feasible, ambitious but feasible. Methods and timeline appropriate. Already has international collaboration.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
A solid background and technical expertise in different areas concerning the proposed studies. The applicant has gained a good knowledge in different and complementary technologies also thanks to work performed within different labs

Reviewer n. 2
It is and accomplished applicant with the right expertise.

Reviewer n. 3
For several years the applicant has gathered required experience for the projects. I think it is ideal for the project (with previous experience also working with collaborators).

Reviewer n. 4

The applicant has the relevant skills and expertise to perform the project.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team brings good expertise and knowledge in different technologies and appears well integrated **Reviewer n. 2** The supporting team is very strong and international, with complementary expertise. **Reviewer n. 3** The research team is very suitable. The project will also benefit from the involvement of Prof. Toker for international projection. **Reviewer n. 4** Mentor (Montopoli) is essential, Morandi brings expertise in metabolic analysis, Toker (international) brings additional expertise in metabolism.

COMMISSIONE INTERNA

Dott.ssa Veronica COCETTA
Titolo del Progetto: Influence of tumor microenvironment in chemotherapy: focus on glutamine metabolism to counteract cisplatin resistance
Obiettivo: identificare i meccanismi coinvolti nella resistenza al cis-platino (cis-Pt), con particolare attenzione al ruolo svolto dalla glutammina.
Punti di forza: ll progetto si colloca nell'area della farmacologia oncologica e risulta coerente con le linee di sviluppo del Dipartimento. Il progetto ha un rilevante impatto scientifico perché si propone di studiare un aspetto della resistenza di un farmaco antitumorale molto utilizzato in terapia, ma con forti limiti di resistenza cellulare. Un aspetto interessante del progetto è lo studio del ruolo svolto dagli adipociti e dalle sostanze da questi rilasciate come componenti del microambiente dei tumori al seno e all'ovaio. Le competenze scientifiche e tecniche del proponente ed i profili scientifici dei partecipanti sono adeguati per la realizzazione degli obiettivi del progetto. La presentazione del progetto è stata adeguata durante il colloquio, confermando quanto evincibile dal testo.
Criticità: Le basi preliminari riguardanti lo studio del coinvolgimento della glutammina rilasciata dagli adipociti, come responsabile della chemioresistenza, non emerge chiaramente dal progetto e non è stato ben chiarito nemmeno durante il colloquio. L'evoluzione temporale del progetto appare, in alcune sue parti, problematica.

COMMISSIONE ESTERNA

Project: Metabolism and antitumor activity of novel GSTP1-1 inhibitors for colon cancer therapy
Applicant: Di Paolo Veronica

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations**, **applications, networking?***

Reviewer n. 1

The proposed project is dealing with a sort of lead optimisation work, with limited originality and innovation; this does not necessarily mean that is of low importance. However, the starting point appears quite weak both in terms of potency of the initial hits and the potential for optimisation in view of the mechanism of action, also in view of the issues due to the metabolic stability. On the other hand, the planned activities could be probably carried out in a shorter time than the anticipated one (particularly for task 1 and task 2)

Reviewer n. 2

The project is interesting and can produce important data for future development. The aims are clearly presented. The Tasks description contains unnecessary background information, sometimes additive, often repetitive with the State of the Art section. Tasks 1 and 2 seem realistic, Task 3 would require all the co-workers to deliver on time and do all the preparatory work, as described. However, the team seems formidable and certainly capable to deliver.
The risk assessment and contingency plan are appropriate.
Reference list not provided albeit the referencing system allows identification of relevant publications.

Reviewer n. 3

The project is built upon GSTP1-1 inhibition as a target for cancer treatment. The project will attempt to characterize the metabolic stability of a second generation of compounds and to generate a third one from a chemical library. The project is interesting and promising. An interesting point is whether detoxifying systems (P450) are involved in their stability, since some of the are highly variable and polymorphic in human population (thus rendering different drug efficiencies in different subjects). Eventually, the project will test these compounds in relevant cancer in vitro models (collaborating with Columbia University).
The methodology and working plan seem feasible. Collaborations with international groups are included in the proposal.

Reviewer n. 4

Clearly written introduction and background to the work but the style of writing did not really grab my attention (a key skill in writing grants). International collaborators are involved in the work.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1

The applicant has knowledge and technical expertise for part of the main activities. It seems she lacks the medicinal chemistry competence needed to properly discuss the lead optimisation process.

Reviewer n. 2

Excellent and appropriate

Reviewer n. 3

The applicant seems very suited for this project (Analytical assays, enzyme activity, isolation of adequate biological samples for test…).

Reviewer n. 4 The applicant has the relevant expertise to perform the project and will increase applicant's skills.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team has the integrated experience and competence to carry out the project **Reviewer n. 2** An excellent team with the required complementary expertise and involving external and international partners. **Reviewer n. 3** Experts in drug metabolism/stability, models and biomarkers of cancer and mechanisms of GST inhibition. **Reviewer n. 4** Mentor (Quintieri) is expert in drug metabolism, Dalerba (US) brings expertise in pre-clinical evaluation of the analogues. Caccuri (Rome) expert in GST. Rotili (Rome) will design analogues of MC4351. Viola (Padova) will help with cell line testing.

COMMISSIONE INTERNA

Dott.ssa Veronica DI PAOLO
Titolo del Progetto: Metabolism and antitumor activity of novel GSTP-1 inhibitor for colon cancer therapy
Obiettivo: studiare il metabolismo di alcuni derivati di due inibitori di GSTP1-1, un bersaglio per il trattamento del tumore al colon.
Punti di forza: ll progetto si colloca nell'ambito della farmacologia oncologica, con particolare attenzione al metabolismo dei farmaci, ed è coerente con le linee di ricerca del Dipartimento. Il progetto ha come obiettivo lo studio del metabolismo di alcune molecole sviluppate nell'Università di Roma come analoghi di NBDHEX, un inibitore della Glutatione S-trasferasi P1, bersaglio nella terapia di alcune forme tumorali. Il progetto risulta essere ben strutturato e gli obiettivi sono chiaramente identificati. La sperimentazione prevista si basa sulla collaborazione tra diversi gruppi di ricerca sia nazionali che internazionali che, con competenze diverse e tra loro complementari, potranno contribuire alla realizzazione del progetto. Le competenze scientifiche e tecniche del proponente ed i profili scientifici dei partecipanti sono assolutamente adeguati per la realizzazione del progetto. La proponente ha presentato in maniera efficace il progetto durante il colloquio, confermando quanto evincibile dal testo.
Criticità: L'originalità ed innovatività del progetto risultano basse. Inoltre, l'impatto del progetto nello sviluppo dipartimentale è scarso, essendo esso configurabile in uno studio routinario, che utilizza metodiche già ben consolidate. L'evoluzione temporale di alcune parti del progetto è più ampia di quanto, probabilmente, richiesto.

COMMISSIONE ESTERNA

Project: Frontier spectroscopic techniques to monitor anticancer drug interactions and to identify cancer biomarkers
Applicant: Hyeraci Mariafrancesca

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations, applications, networking?***

Reviewer n. 1
The objective is quite ambitious and represents an innovative application of spectroscopic technologies (and combination of). In this context it is quite difficult to judge the feasibility and timelines.

Reviewer n. 2
The main technique is outside my area of expertise. However, it appears unfocussed trying to tackle both drug and tumour diagnosis. Moreover, the Aims are mixed up with background information.
The risk analysis and contingency plan is insufficient.
Reference list not provided albeit the referencing system allows identification of relevant publications.

Reviewer n. 3
The presentation of the project is odd. It seems that two different projects are presented with two completely different aspects in common: Spectroscopy and cancer. In addition, the specificity of some the techniques (ATR) to characterize ligand: macromolecule interactions in such heterogeneous samples is not clear to me (as teacher of Advanced Spectroscopic techniques for Master Degree in Chemistry). This appears in the abstract and then in the Aims, we have some basic text on the application of IR and Raman to study Protein: ligand interactions (usually homogeneous samples). Assessment of "specific signals" for ligand: macromolecule interactions (task 1) are not easily translated to "in cellulo" conditions due to the potential extensive overlap in the bands. Thus, the project is not convincing overall. No international collaborations are presented.

Reviewer n. 4
Project seems original and could open up new opportunities. Two distinct ideas were presented within the proposal which is difficult on reading– comes across as not focused. Workplan is clear with deliverables and appears feasible in the timeframe. Contingency?

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
Good competence and expertise for the biological side of the project, but apparently limited knowledge of the spectroscopic techniques, which form an essential part of the proposed activities
The key innovation resides in the application of spectroscopic techniques for which the applicant has little experience

Reviewer n. 2
It is an accomplished researcher in the area of chemotherapeutics but the expertise in the technique to be the focus of this project is less obvious.

Reviewer n. 3
Experience with isolation of biological macromolecules and spectroscopic techniques.

Reviewer n. 4

Applicant has just finished PhD and has relevant skills in cell culture, not clear whether she has expertise in spectroscopy techniques in proposal. Will enable further development of the applicant's skills.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team has complementary experience covering the key project activities **Reviewer n. 2** The team has complementary skills to be used on the project **Reviewer n. 3** Both mentor and participant provide complementary skills (cell and in vitro assays vs. spectroscopy). **Reviewer n. 4** Mentor is Dalla Via with expertise in cancer cell biology, Vezzù brings the expertise in vibrational spectroscopy to the project.

COMMISSIONE INTERNA

Dott.ssa Maria Francesca HYERACI
Titolo del Progetto: Frontier spectroscopic techniques to monitor anticancer drug interactions and to identify cancer biomarkers
Obiettivo: studiare l'interazione tra complessi metallici e strutture biologiche complesse mediante tecniche di spettroscopia vibrazionale.
Punti di forza: Il Progetto di ricerca si propone di applicare tecniche spettroscopiche vibrazionali, ATR FT-IR e spettroscopia Raman, per lo studio di interazioni di farmaci con target biologici e come metodi per la diagnosi prematura del cancro della pelle. Il progetto è interessante, mostra un buon grado di innovatività ed il proponente ha un'adeguata competenza nella biologia cellulare e molecolare applicate all'attività di nuovi agenti antitumorali, utili per la preparazione dei campioni che saranno analizzati mediante le tecniche spettroscopiche proposte nel progetto. Adeguate le competenze dei partecipanti al progetto. Il progetto è stato presentato in maniera sufficientemente chiara durante il colloquio.
Criticità: La proponente non possiede le conoscenze di base e competenze per la conduzione e sviluppo delle tecniche spettroscopiche proposte. Il progetto si basa su una tecnologia non disponibile nel DSF. Il testo risulta complicato da leggere, soprattutto per i non esperti della tematica. Generica l'analisi del rischio, così come l'identificazione di possibili soluzioni.

COMMISSIONE ESTERNA

Il progetto non è stato ammesso alla valutazione della commissione esterna.

COMMISSIONE INTERNA

Dott.ssa Stefania SUT
Titolo del Progetto: Natural and synthetic "pungent" alkylamides as new drug candidates
Obiettivo: creare una libreria di alchilamidi, di origine sia naturale che sintetica per lo studio delle loro proprietà biologiche.
Punti di forza: Il Progetto ha come obiettivo l'estrazione, la purificazione e l'identificazione di composti alchilammidici di origine naturale con attività irritante che possono essere sviluppati come farmaci nell'immunomodulazione, attività antiinfiammatoria e analgesica. Sulla base dei dati di letteratura e delle strutture dei composti naturali che verranno identificati, verrà anche sintetizzata una serie di molecole allo scopo di avere una libreria di prodotti naturali e di prodotti sintetici per gli studi della attività. Il progetto si basa su competenze del proponente per l'isolamento, purificazione e caratterizzazione dei composti di origine naturale e dei collaboratori che contribuiranno alla sintesi chimica di nuovi composti e alla caratterizzazione dell'attività biologica. Il piano di lavoro è semplice e con un elevato grado di realizzabilità. Le competenze della proponente e dei partecipanti sono adeguate.
Criticità: Il progetto è presentato in modo piuttosto superficiale, soprattutto per quanto riguarda il piano delle attività. In particolare, gli studi di attività (fondamentali per il significato del progetto) sono confinati ad una breve parte dell'ultimo periodo della ricerca. L'innovatività del progetto è bassa, così come il contributo allo sviluppo dipartimentale. L'analisi dei rischi appare piuttosto superficiale e generica, così come sono poco dettagliate le soluzioni proposte. La presentazione del progetto durante il colloquio non è stata molto efficace.

COMMISSIONE ESTERNA

Project: Hit-to-lead optimization of a pyrazole-pyrimidine series of new CFTR mutants modulators
Applicant: Vaccarin Christian

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations**, **applications, networking?***

Reviewer n. 1
The proposed approach has limited innovation but appears particularly important in terms of potential delivery. Well organised proposal

Reviewer n. 2
This project tackles an important and interesting problem, is supported by strong preliminary data and is arranged logically. The experimental approaches are described in detail.
Unfortunately, it is completely unreferenced. Such petty technical issues preclude a proper evaluation of applications.
The tasks and deliverables are well aligned.
Risk analysis and contingency plan are well developed.

Reviewer n. 3
The project is aimed to develop novel pharmacological chaperones for CF, particularly to target mutations resistant to current treatments. Therefore, the project stands on previous research and it is essentially additive (not so much innovative). The project is well and clearly written, and it is positive to see some preliminary and promising results. It is also positive that the project is quite multidisciplinary, combining medicinal chemistry, cell biology work and structural identification of binding sites by MS. It is also positive that the different tasks are very well allocated to different member of the project. Members of the Department (Mentor and comentor #1) are well suited for synthesis and design of the novel pharmacophores, although Mentor #2 (Canada) seems to be too necessary for the *in cellulo* test.
Therefore, this is positive and negative: the project relies too much on know-how from abroad, but also, clearly establish an international collaboration with a very solid research group.

Reviewer n. 4
Scientifically significant and there is an unmet clinical need for modulators of this channel. Project is original and could have impact. Clearly written and built on good preliminary data. Workplan is clear and collaborations are in place to do some of the work. Feasibility is good. Potential for collaborations is clear.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**?*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
A very nice CV, with solid med chem competence and expertise; also, the international experience anticipates a positive contribution to the definition of the target activities and discussion of the results. Solid competence and experience in view of the proposed activities. Potential for good leadership

Reviewer n. 2
It is appropriate although “selected publications” are perhaps making a wrong impression compared to the full list of publications presented by other applicants

Reviewer n. 3
Extremely suited for the project.

Reviewer n. 4

Seem appropriate, has required skills for the project. Will enable further development of the applicant.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team expresses an integrated and solid competence and expertise in an international setting. **Reviewer n. 2** A very strong team with complementary expertise and including an international partner **Reviewer n. 3** Yes. All three "mentors" bring together the organic/medicinal chemistry and cell biology experience required for the project. **Reviewer n. 4** Marzaro (mentor) brings complementary expertise in computational analysis. Chilin and Lukacs as co-mentors bring their expertise in CFTR and medicinal chemistry.

COMMISSIONE INTERNA

Dott. Christian VACCARIN

Titolo del Progetto: Hit-to-lead optimization of a pyrazole-pyrimidine series of new CFTR mutants modulators.

Obiettivo: disegnare, sintetizzare ed identificare il meccanismo d'azione di nuovi composti utili nel trattamento della fibrosi cistica.

Punti di forza: La tematica affrontata in questo progetto di ricerca si colloca in un'area terapeutica di particolare interesse scientifico e con potenziali importanti ricadute cliniche. Il progetto è ben strutturato, basato su un solido background e presentato in modo chiaro e di facile comprensione anche per i non esperti della tematica. Utile anche la figura riassuntiva che raffigura i diversi task previsti e il personale che parteciperà alla realizzazione. Inoltre, sono riportati anche risultati preliminari a supporto dello studio proposto. Adeguata l'analisi del rischio. Le competenze del proponente ed i profili scientifici dei partecipanti appaiono adeguati per la realizzazione degli obiettivi previsti. I collegamenti internazionali sono rilevanti.

Criticità: Ottimistica risulta l'applicazione di alcune tecniche analitiche di spettrometria di massa nello studio dell'interazione ligando-recettore. Manca la bibliografia nelle basi scientifiche del progetto.

COMMISSIONE ESTERNA

Project: Liposomes for combination therapy: a new weapon in the battle against EGFR$^+$ breast cancer
Applicant: Vettorato Elisa

General assessment of scientific quality and innovation - Assessment of scientific plan

- *Is the project **scientifically significant**, **original** and **innovative**?*
- *Is the project **built on a departmental know-how**?*
- *Has the project a significant **impact** for future development?*
- *Are the **objectives and hypotheses clearly** presented?*
- *Is the **plan realistically feasible**?*
- *Are the research **methods, materials, work packages and timeline appropriate** and in agreement with deliverables?*
- *Has the project perspectives for **international collaborations**, **applications, networking?***

Reviewer n. 1
High potential for innovative therapeutic approach. Well organised proposal and ambitious project, with potential for generating innovative therapeutic tools.

Reviewer n. 2
This is the only properly referenced project!
This proposal explores latest discoveries on EGFR targeting in cancer and combines local expertise and its successful completion would have potential for further development. The proposed liposomal platform is inherently difficult to modify, and this might pose a problem, especially given the complexity of proposed derivatisations. The chemistry is beyond my expertise area, but some available preliminary data for Task 1 increase my confidence. Otherwise, the tasks appear manageable. The risks and contingency plan are well considered.

Reviewer n. 3
The project aims to develop carriers functionalized with EGFR ligands to target breast cancer (particularly TNBC) to deliver more specifically radioisotopes and chemotherapeutics to tumours. Thus, it will use several known approaches in an ingenious combination. That is interesting. From this promise the project is straightforward: develop carriers, test their properties in vitro with the cargos and test their specific targeting to cells through EGFR dependent mechanisms. Thus, the project is feasible particularly considering the expertise of the team. No international collaborations are included, although some are foreseen.

Reviewer n. 4
The project seems original and the proposal is well written. Built on know-how from department with novel EGFR ligands for targeting. Has potential for significant impact in drug delivery. Good potential for international collaborations. Methods and workplan are clear and risk has been addressed.

Competence and expertise of the applicant.

- *What are the **merits and scientific expertise of the applicant**? Good background and expertise concerning the proposed areas of work*
- *Are they **appropriate and sufficient for the proposed project**?*

Reviewer n. 1
The applicant has developed a good experience also through an international experience

Reviewer n. 2
These are appropriate and appear sufficient.

Reviewer n. 3
Her skills and experience are very well suited for the project, particularly in the work with liposomes, radionuclides and small pharmacological molecules.

Reviewer n. 4

The applicant has sufficient expertise for the project plus relevant publications in the area.
Competence and expertise of the supervisor and of the research team. - *Does the research **team bring complementary expertise** to the project?*
Reviewer n. 1 The team has complementary experience covering the key project activities **Reviewer n. 2** The team is complementary but made up of local experts only. **Reviewer n. 3** The team brings expertise on pharmaceutical formulations, liposome design and characterization and metal-ligand interactions, little on the cell assays (except the applicant). **Reviewer n. 4** The team has collaboration with European partners. Realdon, Di Marco and Mastrotto have complementary expertise.

COMMISSIONE INTERNA

Dott.ssa Elisa VETTORATO
Titolo del Progetto: Liposomes for combination therapy: a new weapon in the battle against $EGFR^+$ breast cancer.
Obiettivo: generare formulazioni liposomiali per il trattamento del tumore al seno.
Punti di forza: La tematica affrontata in questo progetto si colloca nell'ambito dello studio di nuovi sistemi di veicolazione di farmaci oncologici che dovrebbero agire sul recettore per l'EGF. Il progetto è coerente con le linee di sviluppo del Dipartimento. In particolare, viene proposta la preparazione di nuovi sistemi terapeutici liposomiali per la veicolazione combinata di farmaci antitumorali e radioisotopi a cellule tumorali in modo mirato. Il grado di innovatività è buono e promettenti sono le prospettive di sviluppo. Gli obiettivi sono chiari e la ricerca si basa su ipotesi interessanti. Il progetto è realizzabile all'interno del DSF in cui sono disponibili le tecnologie richieste. Adeguati i profili dei partecipanti. Durante il colloquio, la proponente ha esposto il progetto in maniera chiara ed efficace.
Criticità: Spesso i sistemi liposomiali sono difficili da modificare chimicamente e questo pone qualche problema su alcuni aspetti riguardanti la fattibilità del progetto. Durante il colloquio, la proponente ha mostrato alcune lacune sulle conoscenze di base riguardanti i meccanismi chimici delle modifiche proposte.