Research evaluation

EVALUATION REPORT OF THE UNIT

C3M - Centre méditerranéen de médecine moléculaire

UNDER THE SUPERVISION OF THE FOLLOWING ESTABLISHMENTS AND ORGANISMS:

Université Côte d'Azur, UCA
INSERM

EVALUATION CAMPAIGN 2022-2023
GROUP C

Rapport publié le 12/06/2023

In the name of the expert committee[1] :

Serge Roche, Chairman of the committee

For the Hcéres[2] :

Thierry Coulhon, President

Under the decree n° 2021-1536 of 29th November 2021:
[1] The evaluation reports "are signed by the chairperson of the expert committee". (Article 11, paragraph 2);
[2] The president of the Hcéres "countersigns the evaluation reports established by the expert committee and signed by their chairperson." (Article 8, paragraph 5).

This report is the result of the unit's evaluation by the expert committee, the composition of which is specified below. The appreciations it contains are the expression of the independent and collegial deliberation of this committee. The numbers in this report are the certified exact data extracted from the deposited files by the supervising body on behalf of the unit.

MEMBERS OF THE EXPERT COMMITTEE

Chairperson:	Mr. Serge Roche, Inserm, Montpellier
Experts:	Mrs Carine Brinster, Inserm, Lille (representative of CNU) Mrs Judith Favier, Inserm, Paris Mrs Ghislaine Guillemain (CSS3) Mrs Muriel Laffargue, CNRS, Toulouse (vice-chairperson) Mrs Sophie Novault, Institut Pasteur Paris, (supporting personnel) Mr Lionel Larue, Institut Curie, Orsay Mr Eric Oswald, Université Paul Sabatier Toulouse and CHU Toulouse Mr Jean-Max Pasquet, Université de Bordeaux Mr Camille Lobry Inserm, Paris (CSS2) Mr Hervé Seitz, CNRS, Montpellier

HCÉRES REPRESENTATIVE

Mrs Sophie Ezine

CHARACTERISATION OF THE UNIT

- Name: Centre méditerranéen de médecine moléculaire
- Acronym: C3M
- Label and number: U1065
- Number of teams: 13
- Composition of the executive team: composition of the executive team
  Patrick AUBERGER (director), Jean-François TANTI (deputy-director)

SCIENTIFIC PANELS OF THE UNIT

SVE Sciences du vivant et environnement

SVE6 Physiologie et physiopathologie humaine, vieillissement

THEMES OF THE UNIT

The Mediterranean Center for Molecular Medicine (C3M) is a biomedical research institute aiming at understanding the causes and mechanisms of cancer as well as cardiometabolic and inflammatory diseases, and at developing novel prevention and therapeutic strategies for these pathologies. C3M is currently composed of thirteen Teams and develops its projects along with three major topics with seven Teams working in the field of Solid and Haematopoietic Cancers and six teams in the field of Cardio-Metabolic and Inflammatory Diseases. The Cancer topic currently represents 60% of the driving forces of the institute and the Cardio-Metabolic and Inflammatory diseases topic 40%. During the present contract, two strong translational and competitive interdisciplinary axes have emerged: 'Metabolism and Cancer' (teams 1–8 and 11–13) and 'Cancer and Inflammation' (teams 2,3,6,7,8,9 and 11–13).

HISTORIC AND GEOGRAPHICAL LOCATION OF THE UNIT

C3M is a joint research unit endorsed by Inserm and Université Côte d'Azur (UCA) and created in January 2008, under the direction of Dr Yannick Le Marchand-Brustel, with Dr Patrick Auberger as a Deputy Director.
C3M is located into the site of the Hospital L'Archet and occupies 3,800 m2 of laboratory space on a one-floor level. Today, the thirteen teams and the technological core facilities of C3M are all located in the building and occupy 80% of the Archimed building space.

RESEARCH ENVIRONMENT OF THE UNIT

C3M is part of the IDEX project UCAJEDI (Joint Excellence and Dynamic Initiative) coordinated by UCA and launched in 2012 in the framework of the PIA funded by the ANR agency. C3M teams are members of the 'complexity and diversity of living systems' Academy 4 of this IDEX. The Director and the Deputy director of C3M are members of the steering committee and scientific committee of this Academy, respectively.
C3M is also involved in the Labex SIGNALIFE created in 2012 in the framework of another PIA call and reconducted in 2020. The Labex SIGNALIFE gathers 52 teams of the five Institutes of Biology of UCA, forming a leading research network dedicated to the study of Cell Signalling Pathways. Nine C3M teams are involved in the Labex SIGNALIFE (1–3,6-8,11-13). The Director and Deputy Director of C3M are members of the Labex steering committee and the Deputy Director (JF Tanti) is the Chair of the Labex scientific council. Mr. Deckert (Team 11 co-leader) was the co-chair of the pedagogic committee of the Labex. C3M is also integrated in the cancer regional consortium Canceropôle PACA and the future director of C3M (S Tartare-Deckert, Team 11 co-leader) was the President of the scientific committee, between 2017 and 2021. Teams 11–13 of C3M belong to the Nice Hospital University Federation FHU-OncoAge, a transdisciplinary network between clinicians, teachers, researchers, and private partners working on the mechanisms of the aging process.
C3M is part of the UCA-EUR (University School of Research) and as such can recruit students in two different Masters, the Health and Life Master and the Master of Cancerology. C3M teams (1–6, 8, 9 and 11–13) have strong collaborations with a dozen of clinical departments of the Nice CHU Hospital and 36 clinicians from the CHU are integrated in C3M teams. Team 1 also has strong collaborations with the Centre Antoine Lacassagne (Anti-cancer Centre).

UNIT WORKFORCE: in physical persons at 31/12/2021

Permanent personnel in active employment	
Professors and associate professors	18
Lecturer and associate lecturer	17
Senior scientist (Directeur de recherche, DR) and associate	18
Scientist (Chargé de recherche, CR) and associate	26
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	28
Subtotal permanent personnel in active employment	**107**
Non-permanent teacher-researchers, researchers and associates	3
Non-permanent research supporting personnel (PAR)	15
Post-docs	1 0
PhD Students	40
Subtotal non-permanent personnel	**68**
Total	**175**

DISTRIBUTION OF THE UNIT'S PERMANENTS BY EMPLOYER: NON-TUTORSHIP EMPLOYERS ARE GROUPED UNDER THE HEADING 'OTHERS'.

Employer	**EC**	**C**	**PAR**
Inserm	**0**	**39**	**18**
CHU Nice	**30**	**0**	**3**
Université Côte d'Azur	**5**	**0**	**7**
CNRS	**0**	**5**	**0**
Others			
Total	**35**	**45**	**28**

UNIT BUDGET

Recurrent budget excluding wage bill allocated by parent institutions (total over 6 years)	**4,822**
Own resources obtained from regional calls for projects (total over 6 years of sums obtained from AAP idex, i-site, CPER, territorial authorities, etc.)	**825**
Own resources obtained from national calls for projects (total over 6 years of sums obtained on AAP ONR, PIA, ANR, FRM, INCa, etc.)	**13,917**
Own resources obtained from international call for projects (total over 6 years of sums obtained)	**1,907**
Own resources issued from the valorisation, transfer and industrial collaboration (total over 6 years of sums obtained through contracts, patents, service activities, services, etc.).	**1,496**
Total in k euros	**22,967**

GLOBAL ASSESSMENT

The Mediterranean Center for Molecular Medicine (C3M) is a biomedical research institute created in 2008 at the l'Archet Hospital site and endorsed by Inserm and Université Côte d'Azur. The unit promotes close interactions with the CHU hospital to become a translational research centre. It is a middle-size research institute hosting 175 staff with an annual budget of 3M€ not including wages (14% recurrent funding, 86% external). The resources of the unit (recurrent funding, staff) are stable over the mandate with a notable exception of the remarkable increase in external funding during the current mandate (around 18.2 M€ for the mandate).
C3M is composed of thirteen teams who develop a continuum of competitive basic and translational research in the field of solid and haematopoietic cancers (7 teams) and cardiometabolic and inflammatory diseases (6 teams). The unit has developed two interdisciplinary axes on metabolism and cancer (8 teams) and cancer and inflammation (8 teams).
The attractiveness and national visibility of the institute are overall excellent. It is well embedded in PIA programs including the IDEX UCAJEDI, the Labex SIGNALIFE, the Cancéropole PACA and the FHU Oncoage and is highly involved in national steering bodies (7 members in CNRS/INSERM committee, 7 in ARC/LNCC/FRM and 1 president of PACA Canceropole scientific committee). C3M has an impressive record of success to competitive national grants (20/33 ANR as PI, 10/16 INCa as PI, 8 PHRC), nine labelling funding (ARC/FRM/LNCC) and involvement in clinical trials (48) promoting competitive research.

The institute is an attractive place for junior researchers (recruitment of 7 CRCN Inserm and 6 MCU), clinicians (36/180 staff including two PU-PH acting as co-team leaders) and PhDs (around 120). However, the unit should define a strategy to attract more postdocs (10 currently hosted).
The unit has developed state-of-the-art platforms (imaging, cytometry and metabolomics) to support their translational research. However, there is currently no permanent technical staff dedicated to Genomics and Histology platforms. At the international level, the unit is highly involved in the participation (>100 presentations including in prestigious ASCO, Keystone, Gordon congresses) and organisation (15 in total including Melanoma Workshops and international symposia on Cancer and Metabolism) of national and international meetings of their specialities. The participation to competitive and prestigious European research programs is very good for three teams (1 ITN MSCA, 2 ANR ERNANET) and outstanding for one team (1 ERC consolidator), although it can be improved. The scientific production of the unit is overall excellent (excellent for 7/13 teams and outstanding for 2/13 teams). The level of publication is commensurate to the size of the unit: 570 scientific publications including 52% signed in first/last position, and 700 clinical publications, with outstanding discovery of new immunological and cell metabolic mechanisms involved in cancer, infection and metabolic diseases published in best journals of the speciality (Blood, Hepatology, Circ Res) or general high impact journals (Nat Metab, Nat Microbiol, Cell Metab, Cancel Cell, Nat Commun, J. Exp Med).

The interaction with the non-academic sector has further increased during the mandate and is excellent for six teams and outstanding for three teams. The unit is highly active for the development of innovative therapy from their translational research in dermatology (vitiligo and melanoma), gastroenterology (liver diseases), infection diseases and oncology (prostate cancer, leukaemia). The valorisation stemmed from their research finding is impressive, with 50 patents including ten licenses and the incubation of three start-up companies (Theracon, YUKIN and BIPER therapeutics) developing novel cancer therapeutic agents. The unit (7/13 teams) also obtained numerous contracts and consulting activity (1.5M€ in total) with pharmaceutical companies (Servier, Sanofi, Pfizer, Novartis Pharma, Roche) and is involved in two Carnot institutes (Opale, Calym). This remarkable transfer activity is consistent with their developed strategy to become an international translational research institute. The unit has implemented relevant actions and means (website, twitter) to communicate on their research activity with targeted communities (cancer patient associations) and the general public (e.g. Fête de la science, ConnaiScience).

The unit should keep the balance between research on cancer, metabolic and inflammatory diseases, basic/translational/valorisation projects and the level of external fund-raising to promote competitive and multidisciplinary research. The unit should continue their remarkable technology transfer activity. Nonetheless, they should increase international visibility and attractiveness by capitalising their excellence through the increased participation to European research projects and networks and by recruiting international PIs on the main topics of the unit.

In conclusion, C3M is an excellent biomedical translational research institute well positioned at the national level, with a clear potential to expand further its current achievements at the EU level.

DETAILED EVALUATION OF THE UNIT

A – CONSIDERATION OF THE RECOMMENDATIONS IN THE PREVIOUS REPORT

The unit has followed the recommendations raised from the previous evaluation. Notably, the international visibility of the unit and its participation rate in European projects has been improved over the period through one ERC grant, two European Cost programs, one MSCA ITN and two ERANET ANR grants.
The unit has invested in bioinformatics via the recruitment of a non-permanent bio-informatician during the current contract and initiated contacts and discussions with the UCA to obtain more space at C3M as recommended.
The unit communication strategy has been improved by promoting scientific diffusion through a monthly edited newsletter by their General Secretary, redesigning their website and creating a Twitter account to communicate on specific events, scientific talks, thesis prizes or latest publications. The C3M has increased the active participation of PhD students in the exchange between teams by launching monthly seminars organised by PhD and postdoctoral fellows. The unit has increased its international recognition via four European grants, higher impact publications (e.g. Cancer Cell, Cell Metab, Nat Microbiol, Nat Metab) and high-risk projects to develop breakthrough treatments for patients.

B – EVALUATION AREAS

EVALUATION AREA 1: PROFILE, RESOURCES AND ORGANISATION OF THE UNIT

Assessment on the unit's resources

The unit is rated excellent on this criterion. The unit has secured all the resources needed for its research during the mandate. The human resources are stable compared to the previous mandate (175 members) with a good ratio between senior/young researchers (0.76) and technical staff (around 1 for 2 researchers). Remarkably, they have increased external funding (86% of the total budget) and developed state-of-the-art platforms, enabling innovative research. However, the unit does not have sufficient lab space nor permanent technical staff for ongoing research development.

Assessment on the scientific objectives of the unit

The scientific objectives of the unit are excellent. The unit develops competitive research in cancer, cardiometabolic and inflammatory diseases, which represent major public health concerns. They aim to understand novel mechanisms of disease development and resistance to current treatment in order to identify novel point of therapeutic intervention, which is timely and clinically relevant. Their main long-term objective, i.e. develop a translational research centre in close interaction with the CHU hospital, is highly pertinent and credible.

Assessment on the functioning of the unit

The functioning of the unit is overall excellent. The unit composed of thirteen research teams is very well organised. The direction has implemented specific and relevant actions to comply with regulations in terms of human resources and technological platform management, data storage, gender parity, communication and scientific exchanges between members of the unit and outside. The administrative burden of members of the unit has increased during the mandate (about 20%), which may impact on their research activity in a long-term run.

1/ The unit has resources that are suited to its activity profile and research environment.

Strengths and possibilities linked to the context

C3M demonstrates sufficient human resources to ensure its research activity. The unit currently hosts 175 people including 44 permanent researchers (18 DR and 26 CRCN), eighteen professors and associate professors, seventeen lecturers and associate lecturers, 50 engineers and technicians (28 permanent and fifteen non-permanent fixed-term contracts) on own resources and welcome a total of 40 PhD students and ten postdocs and an average of 25–30 master students each year. The human resources of the unit are stable (175 versus 171 during the previous mandate) but the unit has developed an active human resource policy, which led to the competitive recruitment of seven Inserm researchers during the mandate. The unit secured additional financial resources (18M€ during the contract), beyond its recurrent allocation (4.8 M€) to ensure its research activity and develop scientific projects. Indeed, the C3M budget is supported by INSERM and UCA (14%) and external funding (86%) obtained by the teams. This last part of the budget (18.2 M€ during the mandate) stemmed from the increasing success of the teams to national and international grant applications. All teams have reasonable financial means to support their research projects and activities. A system of annual funding redistribution (6% of external grants) has been created by the direction to produce sufficient internal funding and overcome any temporary lack of external resources/funding faced by a specific team, which is good. Finally, the unit dedicates part of its budget to promote collaborative and innovative/emerging research projects. The unit provides and ensures the materiel and technological environment, including infrastructures, platforms (flow cytometry, histology, microscopy, genomics, *in vivo* imaging and metabolic investigation) needed to accomplish the research programs developed by the teams.

Weaknesses and risks linked to the context

Two teams have no permanent technical staff yet. The unit does not have sufficient lab space to host new research teams (3800m^2 for lab space) but the ongoing discussion with the UCA and INSERM may address this weakness by providing 300m2 dedicated to three new teams, one of which is under current selection. There is insufficient bioinformatics competence and expertise that would fully respond to the scientific needs of the teams.

2/ The unit has set itself scientific objectives, including the forward-looking aspect of its policy.

Strengths and possibilities linked to the context

C3M aims at developing innovative and competitive research projects in the field of cancer and cardiometabolic and inflammatory diseases, which represent major public health concerns. Notably, they combine multidisciplinary approaches with preclinical models and patient samples, to understand the molecular mechanisms of disease development and resistance to current treatments. From this fundamental knowledge, they also aim at identifying novel point of therapeutic intervention. In addition, they take advantage of the synergy and complementarity of their research teams to develop innovative projects in these human pathologies.

C3M develops a long-term strategy to become an internationally recognised translational research centre. The proposed methodology involves tight interactions with the CHU hospital on site including the integration of clinicians in C3M teams (36 clinicians, among which two PUPH acts as C3M team co-leaders) and valorisation departments and offices (Inserm-transfert, SATT Sud Est, MATWIN). Notably, the team leaders and researchers hold regular discussions with Inserm-Transfert partners (quarterly meetings) to optimise all possibilities for promoting their experiments and discoveries.

The unit has a clear vision of its research environment and a solid knowledge of its actors. It takes into account the policy of its supervisory authorities in terms of research and development, ethics and open-science practices. Finally, it implicates all their staff members to develop their research strategy.

Weaknesses and risks linked to the context

There is no implementation or established partnership with drug development and bioinformatics departments that would promote translational research, innovation and excellence.

3/ The functioning of the unit complies with the regulations on human resources management, safety, the environment and the protection of scientific assets.

Strengths and possibilities linked to the context

The C3M has implemented specific and relevant actions to comply with regulations in terms of human resources management, psychosocial risks, parity, safety, environment, and protection of scientific heritage. These actions led to significant changes to the way they operate, including improved monitoring of human resources, actions in favour of ethics and sustainable development.
There is a pretty good gender balance between PIs where 40% of teams are headed or co-headed by a woman. C3M has a gender ratio of 76 M/106W and has recently created a committee for parity at C3M to improve parity inside the Unit.

Weaknesses and risks linked to the context

The administrative burden (e.g. grant applications and management, new administrative responsibilities and rules) has significantly increased (about 20% of dedicated time), which would ultimately impact on the research activity of C3M staff.
The administrative hosting arrangements for international researchers (PhD student, postdoc, young PI) is not sufficiently developed (e.g. English spoken administrative staff, support for local integration).

EVALUATION AREA 2: ATTRACTIVENESS

Assessment on the attractiveness of the unit

The attractiveness of the unit is overall excellent. The unit has numerous competitive national grants (33 ANR, 16 INCA, 8 PHRC and 9 ARC/FRM/LNCC labelling), a solid record of researcher recruitment (7 CRCN) and PhD students (about 40), demonstrating its competitive position. The unit is highly involved in national and international meetings (>100) and in national steering bodies (7 members in CNRS/INSERM, 7 in ARC/LNCC/FRM). Its participation to European research programs has increased during the mandate (1 ITN MSCA, 1 ERC consolidator, 2 ANR ERANET), although it can be improved.

1/ The unit has an attractive scientific reputation and contributes to the construction of the European research area.

Strengths and possibilities linked to the context

All C3M teams have been invited to present their work in various national and international meetings of their research domain, including in some prestigious ones (e.g. ASCO, Keystone, Gordon and EMBO conferences and workshops). Overall, they have disseminated and communicated their research findings via their participation to a hundred international conferences and around 300 seminars and oral presentations.
C3M organises an international meeting every two years (Melanoma Workshops, international metabolism and cancer symposium) and researchers are involved in the organising committees of around fifteen national and international congresses during the contract (e.g. Melanoma Workshop, European society for pigment cell research, an international symposium on Cancer and Metabolism).
C3M has increased its success to European research applications since the previous mandate, as attested by one ERC consolidator, one MSCA international training network and two ANR ERA NET.
C3M hosted two visiting foreign professors and assistant professors over the evaluated contract, despite the COVID pandemic.
The senior researchers act as reviewers and editorial board members of some thirty European or American journals in the fields of cancer, endocrinology, cardiology, diabetes, immunology and inflammation. Their participation as editors in all these discipline journals is in perfect harmony with the main themes of C3M: Cancer, cardiometabolic diseases and inflammation.
The members of the unit participate extensively in bodies for steering research or scientific expertise at the national level (6 members present in the CSS1, 2, 3 and five of Inserm and 1 member at CN24 of CNRS) during the previous contract. This participation is currently increasing with ten members for the next contract (8 members of Inserm, 2 members in the scientific council). Members are widely represented in various national scientific councils including three members of the ARC Foundation, three of the National League against

Cancer, one of the FRM and one member who acted as the president of the scientific council of Canceropole PACA.
C3M researchers have been awarded by 43 scientific prizes and various awards during this contract (e.g. Rosen of FRM, Fondation of France, National Academy of Science), including fifteen PEDRs.

Weaknesses and risks linked to the context
There is no recruitment of foreign PI during the contract.
9/13 teams did not participate to European programs during the contract.

2/ The unit is attractive for the quality of its staff hosting policy.

Strengths and possibilities linked to the context
C3M hosts 25–30 scientific and medical masters every year. The students integrate the teams according to the rules of the Doctoral School (ED85), which provide for a maximum number (3/HDR) of thesis students by HDR. The number of masters (30), doctoral students (32) and postdoctoral students (10) is consistent with the number of HDRs (more than 40 HDR holders excluding clinicians, 60 in total).
The masters and doctoral students benefit from a high scientific supervision and scientific environment, enabling a high rate success of many masters to doctoral grants offered by the ED85, but also via the ANR, the LNCC and within the framework of Inserm/Region scholarships. Remarkably, all PhD students secured a fourth-year salary to complete their research project.
Since 2016, C3M has regularly attracted junior and senior researchers who have applied for a research position, including eleven researchers at Inserm during the period considered. Six assistant professors (1 MCU and 5 MCU-PH) have joined C3M).
The unit had six DR1, five DR2 and five CRCNHC promotions during the mandate.

Weaknesses and risks linked to the context
The number of trained students who plan to perform postdoctoral studies is becoming low, which ultimately affects the capacity of C3M to recruit young researchers in the future.'

3/ The unit is attractive because of the recognition gained through its success in competitive calls for projects.

Strengths and possibilities linked to the context
During this contract, the success rate to various international and national calls has greatly increased: at the national level, 8/13 teams have obtained a competitive FRM (3), ARC (2) and LNCC (3) labelling support and 13/13 teams have obtained a competitive national grant during the mandate with a total of 33 ANR-funded grants (20 as coordinator and 13 as partners), sixteen INCa grants (10 as coordinators and 6 as partners) and 8 PHRC grants during the mandate. The unit is involved in 48 clinical trials. Two teams are part of a Carnot Institute (Calym and Opale).

Weaknesses and risks linked to the context
Research projects developed by two teams are not secured by any competitive funding.

4/ The unit is attractive for the quality of its major equipment and technological skills.

Strengths and possibilities linked to the context
C3M has integrated preclinical models, imaging, and cytometry platforms, managed by dedicated engineers. The flow cytometry facility is equipped with state-of-the-art spectral cytometry.
Imaging and Flow facilities are part of MICA organisation (Microscopie Côte D'Azur) and are labelled IBiSA. Some representatives are members of the MICA strategic committee, which defines the scientific policy and the priorities for acquiring new equipment. MICA gathers all biology research institutes of Nice and proposes shared technologies for the different research sites. C3M researchers have full access to the other platforms in Nice/Sofia Antipolis including OMICS, proteomics, genomics & electronic microscopy.

Weaknesses and risks linked to the context
There is currently no permanent technical staff dedicated to the biomics and histology platforms which may endanger their activity.
Technical support is provided by research engineers who dedicated 20–30% of their time for the service activity, which provides less support and service to facility users.

EVALUATION AREA 3: SCIENTIFIC PRODUCTION

Assessment on the scientific production of the unit

The overall scientific production of the unit is impressive both in quality and quantity (570 scientific publications including 303 signed in leading position and 700 clinical publications) and is overall excellent. The unit made numerous outstanding contributions in the field of cancer, infection and metabolic diseases published in the best journals of the specialities (Blood, Hepatology, Circ Res) or general prestigious journals (Nat Metab, Nat Microbiol, Cell Metab, Cancer Cell, Nat Commun, J. Exp Med, EMBO Mol Med), demonstrating their scientific excellence and competitiveness.

1/ The scientific production of the team meets quality criteria.

Strengths and possibilities linked to the context

The research activity of C3M's researchers contributed to 570 publications in peer-reviewed international journals, among which, 303 (i.e. 53%) were signed as first or last author. Almost half of these articles were published in the best journals of their speciality, such as Hepatology, Cancer research, Leukaemia, Blood, Cir Res, or in prestigious specialised or multidisciplinary journals, such as Cancer Cell, Cell Metab, Nat Microbiol, Nat Metab, Sci Advance, Nat Commun, J. Exp Med, EMBO Mol Med, supporting the quality of these articles. Some external collaborative work also led to similar high quality publications (Immunity, Nat Med, Sci Transl Medicine). In addition, clinicians working in different teams participated in more than 700 publications.

Weaknesses and risks linked to the context

The top-quality research developed at C3M has not been translated by publications in highly prestigious and visible multidisciplinary journals of the domain during the mandate.

2/ Scientific production is proportionate to the research potential of the unit and shared out between its personnel.

Strengths and possibilities linked to the context

The average scientific production per team is pretty well balanced and proportionate to their human resources. PhD students and postdocs published their work in proportion to their participation. Most of them demonstrated a first author publication from their main research project. The technical staff is systematically associated with research publications.

Weaknesses and risks linked to the context

The scientific production of one team has decreased during the contract, as attested by the absence of high-quality publications since 2017. The quality of the scientific production of one team is not consistent with the human resources and grants obtained during the mandate.

3/ The scientific production of the unit complies with the principles of research integrity, ethics and open science.

Strengths and possibilities linked to the context

The scientific production of the unit results from research activities that comply with all the rules and values guaranteeing their honest and scientifically rigorous character. It complies with the rules that satisfies the respect of human being. It respects the principles of open science by sharing most widely and as quickly as possible the publications, methods, data, codes and other elements constituents of the scientific approach. The institute has identified a clear strategy for long-term storage management of produced data.

Weaknesses and risks linked to the context

None

EVALUATION AREA 4: CONTRIBUTION OF RESEARCH ACTIVITIES TO SOCIETY

Assessment on the inclusion of the unit's research in society

The interaction of the institute with the economic sector has further increased during the mandate and is overall excellent and outstanding (3 teams). The valorisation stemmed from their research finding is impressive, with 50 patents including ten licensed and incubated three *start-up* companies. This remarkable transfer activity is consistent with their developed strategy to become an international translational research institute. The unit has implemented relevant actions and means (website, Twitter) to communicate on their research activity with targeted communities and the general public.

1/ The unit stands out by the quality of its non-academic interactions.

Strengths and possibilities linked to the context

C3M has further increased its translational research technology transfer activities from the previous mandate, in line with C3M's objectives of promoting high-level translational research. Nine C3M teams have been involved in maturation programs with Inserm-Transfert and/or SATT Sud-Est and/or have participated in the Matwin maturation phases.

C3M nonacademic partnerships cover the development of new therapeutic approaches in the field of cancer (7 Teams), cardiometabolic (2 Teams) and inflammatory diseases (1 Team). These partnerships are supported by excellent collaborations with the Nice Chemistry Institute (CNRS-7272), which led to the filing of 50 patents, among which a dozen has been licensed, and the development of small molecules with therapeutic potential. Several of these molecules are currently in preclinical trials and were the basis of the start-ups YUKIN and BIPER Therapeutics.

Seven teams obtained private contracts (1496k€ during the mandate) or have consulting activity with pharmaceutical companies (e.g. Servier, Sanofi, Pfizer, Novartis, Roche).

Two teams are members of the Carnot Institutes OPALE and CALYM, which, through numerous events (partnering days, meetings), facilitate the interactions of the research and clinical teams with numerous partners from the socio-economic sector, particularly Pharma.

Weaknesses and risks linked to the context

One team does not have any patent or pre-maturation activity despite the translational potential of their research projects.

2/ The unit develops products for the socio-economic world.

Strengths and possibilities linked to the context

Several new processes, molecules and products stemmed from C3M research findings that demonstrate the potential clinical utility in cancer, infection, inflammatory and cardiometabolic diseases have been the subject of valorisation via the filling of 50 patents during the contract. Three start-ups have been incubated by C3M, notably Theracon until 2017, YUKIN Therapeutics until 2022, and BIPER Therapeutics since 2021 that develop innovative anti-cancer drugs. The first two start-ups have benefited from major fund-raising and discussions are underway between the third and various investors. Five teams are involved in PHRC projects and phases 1 and 2 clinical trials.

Weaknesses and risks linked to the context

None

3/ The unit shares its knowledge with the general public and takes part in debates in society.

Strengths and possibilities linked to the context

The unit is widely involved in actions to raise awareness of research among young people. The C3M actively participates in the Science Festival organised every year on a weekend in October. Several researchers, ITAs and students run a large stand and interactive activities for the public. This event is widely reported by the local

press (Nice-Matin). In addition, they organise open days and initiation laboratory courses to students from all level.
The heads and members of the teams regularly intervene in the regional or national press, radios and on national or regional television (France 3, France 5 and France Info) on subjects related to their research programs and also on international research and in the diffusion on social networks (new website, Twitter, LinkedIn).
C3M is developing several actions to promote communication with patients' associations and non-specialised audiences for a better understanding and recognition of their research projects. Notably, they organised visits/conferences with patients' associations on the themes of melanoma, chronic myeloid leukaemia, acute myeloid leukaemia, lymphoma and COVID. C3M also organises specific events for patients and their families to discuss on new treatments and therapeutic strategies.

Weaknesses and risks linked to the context
None

C – RECOMMENDATIONS TO THE UNIT

Recommendations regarding the Evaluation Area 1: Profile, Resources and Organisation of the Unit

The unit should keep the balance range between research on cancer, cardiometabolic and inflammatory diseases and basic/translational/valorisation projects in order to promote innovative research. They should keep the level of external fund-raising to develop competitive or high-risk projects. They should increase their research profile by securing lab space for new PIs and teams on complementary topics, permanent technical support dedicated to platforms and teams. They should develop bioinformatics platform or activity to respond to the scientific needs of teams' projects. Finally, they should increase the international profile of the unit by promoting foreign researchers recruitment and hosting arrangements.

Recommendations regarding the Evaluation Area 2: Attractiveness

The unit should increase its contribution to the construction of the European research area by increasing the application and participation to European research projects and networks. The unit should also increase their international visibility by further recruiting foreign postdocs and PIs.

Recommendations regarding Evaluation Area 3: Scientific Production

Although the scientific production is excellent, the proportion of the highest impact papers should be increased by combining fundamental, translational and clinical research and by focusing their effort on more promising and competitive research projects.

Recommendations regarding Evaluation Area 4: Contribution of Research Activities to Society

The unit should continue its impressive technology transfer activity. However, the unit should further increase multidisciplinary research and promote a better integration/participation of clinicians to their research projects in order to become a major translational research centre in France. The unit should define a clear strategy to select and support most promising innovation projects via industrial collaboration or start-up incubation in C3M.

TEAM-BY-TEAM ASSESSMENT

Team 1: Biology and pathology of melanocyte from skin pigmentation to melanoma

Name of the supervisor: Mrs. Corine Bertolotto and Mr. Robert Ballotti

THEMES OF THE TEAM

Team 1 focuses their research on cutaneous and uveal melanoma. They aim to understand the molecular mechanisms associated with cancer progression and identify novel therapeutic point of intervention.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team followed most of the recommendations from the previous evaluation. Notably, they hired postdoc fellows from Italy and Spain and applied to ERC senior grants. They are combining their effort with those of teams 3 and 13 to hire a bioinformatician in 2023 and established local and international collaborations with other bioinformaticians to analyse their project results.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	4
Lecturer and associate lecturer	1
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	1
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**9**
Non-permanent teacher-researchers, researchers, and associates	0
Non-permanent research supporting personnel (PAR)	4
Post-docs	1
PhD Students	3
Subtotal non-permanent personnel	**8**
Total	**17**

EVALUATION

Overall assessment of the team

The scientific production is original and excellent with very high-level publications (Genes & Dev 2018, JNCI 2017, 3 Cell Death Differ 2 × 2021, 2018) and remarkable contributions in cutaneous and uveal melanoma.

The attractiveness is outstanding as attested by the capacity to raise important funds (3 INCa, 1 ANR and LNCC label), to be regularly accredited by funding agencies, and to attract young international researchers.

The valorisation is excellent, as attested by the filing of seven patents with a licensing agreement, as well as tight interactions with four cosmetics and pharmaceutical companies.

Strengths and possibilities linked to the context

Team 1 is a very well structured established laboratory successfully working and publishing on cutaneous and uveal melanomas. During the period, they attracted one lecturer (maître de conférence) with a tenured position. The team is also attractive for young scientists. They recruited 8 PhD students (Greek, Algerian, Lebanese and French x5), three funded by the minister of research, one by the LABEX Signalife, two by la Ligue Nationale Contre le Cancer (LNCC), one Inserm-Region, one UCA and five postdoctoral fellows (Italian, Algerian, Spanish and French x2) supported by national funding (2ARC, FRM, INCa, ANR Idex Jed). From 2016 to 2021, PhD students and postdocs published nineteen articles: eleven original articles, five as first/co-first authors in excellent journals (Cell Death Diff x3, Oncogene, Cell Death Dis), and 8 review articles in 1st position in excellent journal such as Genes&Dev, Theranostics x2, Prog in Ret and Eye Research, and Oncogene.

This team is very successful in securing funding to perform their research, as attested by multiple resources obtained from national or local institutions (3 INCa PLBIO with 2 as PI, 3 INCa PAIR with 1 as PI, 1 ANR Blanc, ANR-IDEX UCA, Cancéropôle PACA, LABEX signalife, Nice city…) or charities (2 from the French Society of Dermatology [SFD], 2 ARC and labelled from Ligue Nationale contre le Cancer until 2024).
The national and international reputation of the team is very high. Notably, the team leader was involved in the Melanoma Research Alliance Consortium (MRA), a worldwide network of scientists and physicians working in the field. In the context of this consortium, the team leader participated to a perspective published in Cancer Cell. The team leader also received two prestigious awards from the French Academy of Sciences and from the National Academy of Medicine.
Team members have been invited in numerous national and international conferences, even during the COVID pandemic (24 invitations as speakers [including IPCC in 2017, and a tribute for the Nobel prize Thomas Lindahl on *DNA repair and aging* in 2016], and ten as chair in international conferences (including ESPCR, IPCC, ICSA). This team organised two national and international meetings (e.g. Melanoma Workshop 2021, and ESPCR 2018 in France). Team members were involved in national (ARC, Ligue contre le Cancer) and international grant evaluation (Worldwide Cancer Research and European programs), and reviewed articles in prestigious journals (e.g. Cell, Cancer Cell, Nature Review Cancer). One team member belonged to the INSERM committee CSS3 and acted as President for five years. One team member is an associate editor of the second best dermatological journal (Pigment Cell & Melanoma Research). Two team members belong to the national expertise committee of 'Ligue nationale contre le cancer' and 'Fondation ARC' (against cancer).
Since 2016, the team generated 54 publications: 38 original research articles and sixteen reviews, including one article on basic pigmentation that was published in a prestigious dermatological journal. Twenty-two of them were signed as last authors by the PI. Clinicians of the team are also highly involved in research with 24 associated publications. Through their original highly cited publications in very high-profile journal such as Genes & Dev (2018), JNCI (2017), three Cell Death Differ (2 × 2021, 2018) and Mol Cancer (2021), this team allowed significant progress in the field of melanoma in basic and translational research. Starting a new axis on uveal melanoma was an excellent opportunity since they already published as PI two original articles in Cell Death Diff and Cell Death Discovery journals and three reviews (Genes & Dev, PCMR, and Progress in Retinal Eye Res), that have been highlighted by peers.
Moreover, team 1 collaborated with C3M teams: team 12 (2xMol Cancer, 2021) and team 13 (Genes&Dev, 2018). The team initiated international collaborations as those with Bastian B (USA), Kobold S (Germany), Close P (Belgium) and Marine JC (Belgium) leading to seven high-quality publications, including Mol Cancer and JNCI as PI.

Team 1 is involved in translational research; this is reflected with seven patents (six registered), two declarations of invention deposited and one licensed contract. The team has interactions/collaborations/consultancies with different cosmetics and pharmaceutical companies including Novartis, Horus Pharma, and laboratoire d'Anjou. This link allows the recruitment of postdocs after their training in the team or fellowships for PhD students. The research of Team 1 was already recognised through national and international highlights in newspapers, websites and television. Members of Team 1 participate to science diffusion to the general public and to students through conferences and interviews. Finally, it is important to note that this team is interacting actively with the ophthalmology, dermatology departments and the Biobank of Centre Hospitalier Universitaire of Nice.
Team members are involved in students training and teaching activities. Team 1 regularly supervises Master students, PhD students and postdocs. There are currently three HDR and a 2/1 PhD/HDR ratio. Between 2016 and 2021, five PhD students obtained their diploma.
Members of Team 1 are external scientific supervisors of French PhD students, and participate as referees/examiners of Thesis committees. The team leader organised from scratch a new master's program at the University Côte d'Azur named 'Master of cancerology and translational research'.
The organisation of the team is fully coherent at the quantitative and qualitative levels, with staff scientists, staff clinicians of different specialities (dermatology and ophthalmology), staff technicians/engineers, postdocs and PhD students. The lecturer that joined the team in October 2020 published high quality articles in another

research field (Duchenne Muscular Dystrophy). She should now participate to the team projects for next years (if not done yet). Moreover, the team leader who took over the lead in 2016 was able to maintain the quality of the produced Science of this team.

Weaknesses and risks linked to the context

The absence of a stabilised bioinformatician may represent a threat for the ambitious project of the team.
The team did not capitalise on its research activity and network via European research projects.

RECOMMENDATIONS TO THE TEAM

The committee recommends the team to continue its excellent research activity and projects, specifically on the recently developed topic on uveal melanoma.

Team 2: Innovative Therapies in Myeloid Leukaemia and Haematopoietic Stem Cells

Name of the supervisor: Mr. Patrick Auberger

THEMES OF THE TEAM

Team 2 aims at understanding the oncogenic mechanisms of myeloid leukaemias and multiple myelomas and develop innovative therapies for these cancers. Notably, they aim at understanding the pathophysiology of haematopoietic stem cell development and myeloid differentiation, dissect the molecular mechanisms involved in the differentiation of monocytes into macrophages and their alteration in myeloid leukaemia, and finally discover innovative therapies to treat myeloid malignancies and their resistant forms such as MDS, AML and CML.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team has followed the recommendations from the previous report. Specifically, they have increased the scientific excellence and visibility of permanent researchers through (co-) last authorship publications in prominent journals (e.g. J Exp Med) and participate in numerous PhD juries, INSERM CSS and teaching activities. Also, the team leader reduced their administrative burden through delegation of specific tasks to the deputy director. Finally, participation in national consortium was promoted by affiliation of the team to the OPALE Carnot Institute.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	2
Lecturer and associate lecturer	1
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	3
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	0
Subtotal permanent personnel in active employment	**7**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	4
Post-docs	0
PhD Students	2
Subtotal non-permanent personnel	**6**
Total	**13**

EVALUATION

Overall assessment of the team

Scientific output is excellent with seminal contributions in leukaemia published in top journals of the speciality (J Exp Med 2016, Cancer Res 2021).

The involvement of young researchers in the production and the direction of the team has been fostered.

The attractiveness is excellent as attested by the high number of national competitive grants (4 INCa) and the ARC labelling support (X3), invitations in national meetings and one INSERM CRCN recruitment.

The valorisation is outstanding as attested by two patents licensed and a clinical trial.

Strengths and possibilities linked to the context

The team has an excellent attractiveness with six HDR (4 in the last contract), four PhD and one INSERM researcher who joined the team in 2021. All PhD (7 thesis defences during the contract) and postdocs (4) published their research in several and high-level papers, Sci Rep 2018 (on IL34 and CSF1 leading to equal macrophage differentiation), Cancer Res 2021 (on dual PKM and IMPDH inhibition in metastatic melanoma).
The team also has excellent funding record with six national grants as PI (4INCa, 1 Canceropole PACA and 1 ITMO Cancer) and eleven from major charities (such as 3 ARC Equipe labélisée, Fondation de France, Ligue Nationale Contre le Cancer…..).

The team and members are very well recognised at the national level. Team members are involved in Inserm committees, SAB for research centres and HCERES committees for several cancer research centres (IGR, CRCT, CRCM…). The team leader acted as the president of the SAB of an INSERM institute (U1271) and is involved in consulting (ROCA). Researchers are members of the INSERM CCS1 and CSS2. Several of them have been awarded (Rosen and Albert 1er Prices). The team is invited in ten national conferences and congress (e.g. SFH, CHO meetings).
The team published 50 original articles including sixteen with major contributions as (co-) first (co-) last and (co-corresponding) in numerous high-impact and high-quality journals such as J Exp Med (2016), Cancer Res 2021, Leukaemia (2018), and review/comments in prestigious journals such as Blood (2017) and Autophagy (2019).

Clinicians published an additional 72 articles on clinical research in top tier clinical journals such as The Lancet Haematology (2018). The overall contributions of team members are well balanced between permanent researchers of the team that sign several articles as (co-) last authors.
The interaction with the private sector is remarkable, as demonstrated by seven patents: two licensed for the team and five in collaboration with team 10. The team participates in numerous collaborations with industrials such as Roche and ROCA and chemical laboratories in Nice and Montpellier to develop novel therapies. This is combined with the very good integration in the team and collaboration with clinician leading to primary patient samples collection, establishment of patient cohorts and development of clinical trials. The overall quality and dynamism of the translational research could give rise to innovative therapies.

All the permanent researchers and faculties are involved in teaching and mentoring students. Each senior researcher supervising students monitors the development and training as well as the proper maintenance of the laboratory notebook on a weekly basis.

Weaknesses and risks linked to the context

Although the team has an excellent funding record, they do not demonstrate sufficient European/international grants.
Team members have a strong national reputation and should increase the international level

RECOMMENDATIONS TO THE TEAM

The team should continue to develop their high-quality research while trying to secure additional international funding whenever possible. Young investigators should be encouraged to step up and secure competitive funding.

Team 3: Metabolism, cancer and immune responses

Name of the supervisor: Mr. Jean-Ehrland Ricci

THEMES OF THE TEAM

The research activity of team 3 is focused on three main axes:

1) the impact of the metabolism modulation on cancer cells' death and the anti-tumour immune response,
2) the non-metabolic role of the GAPDH enzyme in B and T lymphomas genesis,
3) the role of the mitochondria clearance (mitophagy) in chemotherapy response of cancer cells.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team has followed previous recommendations: they have focused their research on three main axes, which led to 79 publications in top journals over the period; they reinforced their collaborations with clinicians and industrial companies; they rebalanced students/postdoctoral supervision among senior scientists.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	1
Lecturer and associate lecturer	0
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	2
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**6**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	1
Post-docs	2
PhD Students	3
Subtotal non-permanent personnel	**6**
Total	**12**

EVALUATION

Overall assessment of the team

The scientific production is outstanding with a seminal contribution on the role of GAPDH in lymphoma therapy resistance (Cancer Cell 2019 and 2 Cell Metab 2018, 2019).

The attractiveness is outstanding with two highly competitive grants at the national (ANR, INCa) and European level (Marie Curie H2020), the recruitment of a PhD, postdoctoral fellows and Inserm researcher during the contract and recurrent invitations to national and international meetings (EMBO).

Innovation and valorisation activities are excellent as revealed by three patents with international extension and three financial support from private companies.

Strengths and possibilities linked to the context

The team was very successful in attracting young scientists over the period (i.e. 7 PhD students and 3 postdoctoral fellows). They significantly contributed to the scientific production of the team (8 articles and 8 reviews in the first author position and 8 research articles as co-author). Importantly, during the period one postdoc obtained an Inserm permanent researcher position.
The team obtained competitive funding successfully as promoter, as attested by competitive labellisations (Fondation ARC, Ligue Nationale contre le Cancer…) or coordinator in four national grants (1 ANR Blanc, 3 INCa PLBIO including one as PI), European fellowships (Marie Curie Horizon 2020), charities (Fondation de France, F Tourré…) and from private companies (Servier, Sanofi, Erytech).
The team research work is internationally well recognised in their domain, as attested by their numerous citations (>450) and the recurrent invitations of the team leader to international meetings (20 over the past 5 years including 2 EMBO workshops).
The team leader is largely invested and very active in the co-organisation of meetings, including an EMBO conference in Spain in 2021, and the recurrent co-organisation of the international meetings on 'Metabolism and Cancer' held in France in 2019 and 2021. He received two awards from the Fondation of France and the National Academy of Science in 2019 and 2018, respectively. He also acted as an expert for different research and evaluation committees (HCERES, INSERM CSS2, CNRS section 24, vice-president of CN4 Fondation ARC…).

Their scientific production is attested by 66 original research articles and thirteen reviews in eminent general or specialised journals, including nineteen as first and (co-) last authors (FEBS 2021, Cell Metab in 2018, 2019, Cancer Cell in 2019, Oncogenesis in 2021). Members were also very interactive with other C3M teams as evidenced by fourteen collaborative publications from the period. Of note, they produced a series of highly impacted publications in Cell Metabolism and Cancer Cell (2019) showing an unsuspected essential role of the metabolic enzyme Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) in haematological malignancies. Specifically, they showed that low GAPH Diffuse Large B Cell Lymphoma are resistant to immune-chemotherapeutic agent R-CHOP, because of the induction of a metabolic switch at the expense of glycolysis and that targeting these pathways represents a novel therapeutic strategy to treat refractory patients. Conversely, in another study they showed that a subgroup of T cell lymphomas (i.e. Angioimmunoblastic T cell Lymphoma) relies on high GAPDH expression inducing non-canonical NF-kB signalling for lymphoma ontogeny. This innovative nature of this research may have clinical utility to treat these diseases.
The interaction of the team with the private sector is excellent. Their work led to the deposition of three patents since 2016. Although not licensed yet, they promoted strong links with clinicians and companies for translational research and future clinical trials.
Their interactions with pharmaceutical and biotech companies enable them to secure private funding from Servier, Sanofi and Erytech. The team leader is involved in consultancy activities with major pharmaceutical companies such as Servier and Sanofi. The team is taking part of the 'Institut Carnot CALYM', a consortium of French academic research laboratories in lymphoma aimed at increasing the outreach towards companies.
Finally, the team is very active in communicating their findings and knowledge to mass media (France 5, France 3, France Info) and participated in open debates on topics of nutrition and cancer.

Weaknesses and risks linked to the context

Although the team develop collaborative research with clinicians, there is no clear integration of clinicians in the team that would foster such activity.

RECOMMENDATIONS TO THE TEAM

The committee recommends the team to continue their excellent research activity and projects. The team leader should encourage permanent researchers of his team to apply for national and international funding and envisage recruiting clinicians for the next contract.

Team 4: Fundamental to Translational Research on Dysregulated Haematopoiesis – DysHema

Name of the supervisor: Mr. Jean-François Peyron and Mr. Pierre-Simon Rohrlich

THEMES OF THE TEAM

The aim of team 4 is to develop an onco-haematology project on chronic and acute leukaemias. Specifically, they aim to develop 80S ribosome inhibitors as a novel therapeutic strategy for these leukaemia, innovative preclinical models to study NFKB signalling in leukemogenesis; and characterise bidirectional signalling mediated by intracellular organelles in leukaemia resistance.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

Extensive efforts have been made to best respond to previous recommendations. Their research projects have been now focused. They have obtained several funding both as promoters (ARC, Sohn fondation, FiLMC) and partners (INCa PLBIO, ANR). They have developed innovative approaches to address their biological questions (repositioned drugs in ALL, Targeting 80S ribosome by antibiotics, planning genome-wide CrispR screening).

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	1
Lecturer and associate lecturer	2
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	2
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**7**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	0
Post-docs	0
PhD Students	1
Subtotal non-permanent personnel	**1**
Total	**8**

EVALUATION

Overall assessment of the team

The overall scientific output is very good with earlier excellent publications of the team in 2016 (Nat Commun, Blood, Cancer Res).
The attractiveness of the team is good as evidenced by collaborations to obtain funding and participation to local committees for evaluation; however the committee noted a decrease in funding and human resources during the mandate.
Their results may have a very good potential of valorisation which has not yet been validated by any patent filling.

Strengths and possibilities linked to the context

The team successfully supervised three PhD during the last contract. All of them have published their project as a first author. The team also hosted two postdoctoral fellows.
The team obtained financial support from specific foundations (Sohn, FDF, ARC) and participated in INCa (2016–2018, 2022–2025) and ANR (2017–2019) projects, allowing them to pursue their cryo-EM-based drug design project aiming to target 80S ribosome.
Members of the team have been invited in several national and international meetings (18) (The Blankenese conference, Hamburg, Germany and the Children leukaemia meeting, Brussels, Belgium). They participated in national and local evaluation committees (CNRS committee, MCF CNU87 recruitment committee, doctoral school council 85, scientific council of the 'Société française des cancers de l'enfant'). They participated in the organisation of two local meetings and one European workshop.

The team has published thirteen original articles and seven reviews, half of which have been published in the first or last author position. Three have been published, as PI, in excellent journals, at the beginning of the contract: Blood (2016), Nat Commun (2016), Cancer Research (2016) and the others in very good reputations journals such as Leuk Lymphoma (2017, 2018), Cells 2020. They collaborated to work published in Cancer Metab 2018, Cancer Res 2016, and Cancer Cell 2019. They developed an ambitious collaboration with IGBMC using cryo-EM-based drug design to target 80S ribosome in T-All. In another paper, they reported the mitochondria transfer from mesenchymal stromal cells to leukaemic cells as a defence mechanism of chemotherapy (Blood 2016, Highly Cited Paper in the web of science).

The team in well implicated in the communication and sharing of scientific and medical knowledge with the public. A patent application process is ongoing concerning the ribosome inhibitory compounds.

The team trained eleven Master students and three MD from oncopediatric department.

Weaknesses and risks linked to the context

The attractiveness and the scientific production have decreased during the last years of the contract. For instance, there is no PhD student or postdocs recently recruited in the team; three HDR staff scientists do not demonstrate any PhD supervision for the evaluated period.
The team does not demonstrate any competitive grants as coordinators and did not develop any economical valorisation or interaction with the non-academic world.

RECOMMENDATIONS TO THE TEAM

Considering the financial and human resources of the team, the committee strongly recommends focusing their research project on the most advanced part of the proposal (ribosome axis). Patent filling should be engaged as soon as possible to foster interaction with industrial partners and obtain future funding.

Team 5: Cancer, Metabolism and Environment (CAMEEN)

Name of the supervisor: Mr. Frédéric Bost

THEMES OF THE TEAM

The aim of the team 5 is to identify tumour promoting mechanisms of advanced prostate cancer (PCa), notably cell/mitochondrial metabolism and endocrine disruptors. They also aim at uncovering novel therapeutic point of intervention from their research.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team has addressed most of the recommendations of the previous report. Specifically, they have improved their attractiveness as attested by the number of students, including foreign students, being trained in the team during the period. They also published in the last position in excellent reputation journals. However, they did not entirely address the point of the lack of European network.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	2
Lecturer and associate lecturer	2
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	1
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**8**
Non-permanent teacher-researchers, researchers and associates	1
Non-permanent research supporting personnel (PAR)	2
Post-docs	0
PhD Students	4
Subtotal non-permanent personnel	**7**
Total	**15**

EVALUATION

Overall assessment of the team

Scientific production is overall excellent during the contract, with regular publication activity, including some remarkable contributions in prostate cancer (Cancer Res 2019, EMBO Rep in 2019, Elife in 2021).

Attractiveness is overall very good, with invitations to important international conferences (Gordon Conf), hosting foreign students and several competitive national grants as a partner.

Valorisation activity is excellent, with two patents and two clinical trials.

Strengths and possibilities linked to the context

The team demonstrates an excellent capacity to attract French and foreign young researchers (China, USA, Brazil, Italy and Lebanon). Specifically, they have trained nine PhD students (5 being supported by UCA, one by la Ligue Nationale Contre le Cancer and 3 are medical students from the CHU) and hosted four postdoctoral researchers, including one supported by the competitive European MSCA fellowship and two by FRM fellowships.

The overall capacity of the team to obtain research funding for the period is excellent with 8 national grants, including three as coordinator (e.g. 1 ANSES, 1 Inserm transfer and 1 ANR) and five as partners (2 INCa, ITMO Cancer and 2 ANR) and a recent competitive label of La Ligue contre le Cancer as a promoter.

The team is well recognised at the national and international level in their research field, as evidenced by their many invitations to congresses of the domain of cancer biology in France (35 invitations) and abroad (13 invitations including a Gordon Conference). Two senior scientists of the team are co-organisers of three international symposia on Cancer and Metabolism (Palavas les Flots in 2016, Marseille in 2019 and Bordeaux in 2021). Members of the team also act as experts to three national scientific committees (the national committee of LNCC, IUF and ANSES).

The team has published 69 publications, including 35 fundamental original articles. Thirty articles have been published in first or last position over the period, including four in excellent reputation journals in the domain of cancer and cellular and molecular biology (Theranostics in 2020, EMBO Rep in 2019, Elife in 2021 and Cancer Res in 2019). Of note, the team has published an excellent work reporting novel mechanism linked to metabolic reprogramming in the progression of prostate cancer (Cancer Res 2019). In addition, an international collaboration (Yale, USA) led to a publication in the high-profile journal Sci Transl Med (2020).

The link with the non-academic sector is attested by two patent deposits and two clinical trials linked to their research. Of note, the clinical trial Taxomet designed to test the potential of metformin (an anti-metabolic drug) in patients with advanced prostate cancer stemmed from their previous fundamental/translational research.

Weaknesses and risks linked to the context

Considering the size of the team, their international visibility is not sufficiently demonstrated by their success to competitive grant applications as a promoter.

RECOMMENDATIONS TO THE TEAM

The team should increase their application to competitive grants as a promoter. The committee is enthusiastic about their innovative project on primary cilia in prostate cancer.

Team 6: Microbial Virulence and Inflammatory Signalling in Disease (VIRINFLAM)

Name of the supervisor: Mr. Laurent Boyer

THEMES OF THE TEAM

The team 'Microbial Virulence and Inflammatory Signalling (VIRINFLAM)' works on the host immune response to pathogenic microbes. To this end, it studies the mechanisms of detection of virulence and innate immune responses at the molecular and cellular levels as well as in preclinical models. A strong interaction with the infectiology and microbiology departments at the University Hospital of Nice also allows clinical research in humans based on the basic research of the team.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team has addressed all of the recommendations of the previous report. Specifically, they have developed connections with the clinic, increased their network with European leaders in the field and increased involvement in master programs.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	4
Lecturer and associate lecturer	3
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	2
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	3
Subtotal permanent personnel in active employment	**13**
Non-permanent teacher-researchers, researchers and associates	1
Non-permanent research supporting personnel (PAR)	0
Post-docs	1
PhD Students	6
Subtotal non-permanent personnel	7
Total	**21**

EVALUATION

Overall assessment of the team

Excellent scientific production with remarkable observations published in the best journals of the domain (Nat Microbiol 2021).
The team has an outstanding attractiveness and was able to raise the necessary funds through various research contracts. (2 ANR, 2 Regional) and invited to a Keystone symposium.

The team offers an outstanding example of successful translational research, where a solid fundamental expertise generates concrete, immediately useful clinical tools. A fruitful collaboration with the hospital also identified a novel virulent pathogen involved in preterm newborn mortality. The team filed four patents and launched two clinical trials.

Strengths and possibilities linked to the context

During the evaluation period, Team 6 attracted one postdoc, eleven PhD students, 21 master students, one clinical full professor (PU-PH) and two clinical assistant professors (MCU-PH), demonstrating its academic appeal. Every tenured researcher, every PhD student and postdoc participates in the articles published by the team. Clinical researchers are actively involved in the team's projects, yielding a successful translational research and production.

Team 6 has obtained funding on a recurrent and continuous basis. During the evaluation period, the team obtained 3ANR contracts (2 as coordinator), one exceptional Inserm grant, two collaborative grants as partner (from the Université Côte d'Azur and in the framework of the EcoPhyto program), two local grants (as PI, from the Département and the Région), one industrial collaboration with Becton Dickinson, and two medical charity contracts (bourse ARC).

The team is recognised in its field of expertise at the national and international level and has since its last HCERES evaluation refocused a large part of its work on the study of the inflammasome. For instance, team members have been invited or had their abstracts selected for oral presentations in more than twenty national or international congresses or symposia. For example, we can mention the Webinar REACTing Covid-19 ITMO I3M, the national congress of the French Society of Microbiology, the Keystone Symposia on Innate Sensors in Health and Diseases.

Team 6 has a steady scientific output, with 32 primary research articles, seven reviews and 108 clinical articles published during the evaluation period. Among the primary research articles, three highly visible articles were published as corresponding authors (Nat Microbiol 2021, Blood Adv 2021; Emerg Infect Dis.2017), as well as one article in collaboration with the team of Bénédicte Py (SIRIC, Lyon) (Nature Communications 2021).
The results obtained in recent years through more fundamental studies on the CNF1 toxin have advanced our knowledge of the signalling and regulatory pathways of the inflammasome. This work has been published in Nature Microbiology. The results of the team establish that Pak1 and Pak2 are critical regulators of the NLRP3 inflammasome and reveal the role of the Pak-NLRP3 signalling axis. This work paved the way for more translational research. When the Covid-19 epidemic began, the team investigated the importance of the NLPR3 inflammasome in Covid-19 by assembling a cohort of patients and analysing circulating myeloid cells.
The team also uses several experimental models ranging from invertebrate to mammalian systems to understand the molecular basis of the innate immune response during infection and to identify and characterise conserved ubiquitin-modifying enzymes that regulate innate immunity and host defence. In parallel to these studies, the team has been working on the emergence of pathogenicity of various bacterial strains. Using infection models the team was able to determine the role of bacterial virulence and host innate immunity in this interaction. In conclusion, Team 6 has magnificently developed its expertise in innate host responses to a wide variety of pathogens.
The whole team actively participates in the writing of the articles, and several articles combine contributions from scientific and clinical staff, revealing a harmonious involvement of each team member in common and translational projects. The team's publication record is therefore fully in line with its ambition to generate fundamental knowledge and translate it into clinical progress.

The team is at the interface between basic and translational research. The results obtained in fundamental research by the team have paved the way for new diagnostic tests and new targeted therapies against pathogen infections and inflammatory diseases. This more applied research has led to the filing of four patents and the launch of two clinical trials. In particular during the Covid-19 pandemic, the team has capitalised on its expertise to offer a personalised predictor of Covid-19 severity (one article and three patents). A fruitful collaboration with the hospital also identified a novel virulent pathogen involved in preterm newborn mortality.

The team therefore offers a great example of successful translational research, where a solid fundamental expertise generates concrete, immediately useful clinical tools. In conclusion, the team has achieved a perfect match between cutting-edge fundamental research, in particular on the inflammasome, and translational research on infectious diseases and in particular sepsis.

The team has filed four patents during the last contract, all related to infectious diseases treatment or diagnostic. The team has an ongoing collaboration with Becton Dickinson.

The team is actively involved in the training of young scientists, with one postdoc, eleven PhD students and 21 master students trained during the evaluation period. The team members (not only professors and assistant professors, but also researchers) teach at the university and in advanced courses. They were involved in 'Fête de la science' as well as 'Olympiades Nationales de Biologie'. The team participated in a debate about New Revolutions in Biology: Economic Perspectives and Societal Challenges and was involved in the think tank COVIDEMAIN.

Weaknesses and risks linked to the context

An unbalanced ratio of teacher researchers (hospital-university) to researcher can become a hindrance to the development of new clinical research due to a lack of time available for the researchers.

RECOMMENDATIONS TO THE TEAM

The team should take advantage of the team's expertise in the study of the innate response and in particular the inflammasome to continue to expand the field of research to other toxins/pathogens.

They should continue to strengthen the link with clinicians while maintaining the anchoring with the microbiologists of the University Hospital.

Team 7: Insulin Resistance in Obesity and Type 2 Diabetes (RADIPOLAB)

Name of the supervisor: Mr. Jean-François Tanti and Mrs. Mireille Cormont

THEMES OF THE TEAM

The aims of the team 7 are to unravel and characterise cellular mechanisms and signalling pathways connecting adipose tissue expansion and dysfunction in obese individuals, leading to insulin resistance.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team addressed several recommendations from the previous evaluation. To promote translational aspects of their research, they participated in a new FHU (ongoing demand). However, they did not develop interactions with industrial partners yet. Nevertheless, the team successfully developed a partnership with other C3M teams, as attested by common publications (Cell, Scientific Report) and grants (2 ANR, 1 as PI, and 1 doctoral grant from the city of Nice), as suggested.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	0
Lecturer and associate lecturer	0
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	4
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	0
Subtotal permanent personnel in active employment	**6**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	3
Post-docs	0
PhD Students	2
Subtotal non-permanent personnel	**5**
Total	**11**

EVALUATION

Overall assessment of the team

Very good scientific production with some new dysfunctional regulatory mechanisms in adipocytes and immune cells of adipose tissue published in excellent journals (Diabetes 2016, Cell Reports 2018).
The attractiveness of the team is excellent, with seven PhD students hosted and competitive grants obtained (4 ANR, 3 PIA). The team is very well recognised in their research field at the national level.
There is no patent regarding the potential of the developed research themes and the targets identified to prevent metabolic complications in obese patients.

Strengths and possibilities linked to the context

The team has been attractive for the recruitment of PhD students, postdoctoral fellows and engineers (7 PhD students, 1 postdoctoral fellow and four engineers (including 1 research engineer). All PhD students and postdocs have published in first position (Faseb J., Sci Rep, Diabetes…) and found a permanent job after their thesis.

The team was able to get numerous grants with nine foundations' grants as PI (1FRM, 4 SFD, 1 ITMO PMN…), five national grants (5 ANR including 4 as PI, with 2 ANR JCJC), four PIA (3 as PI, 1 grant for a Master student, 2 grants for PhD Students) and one local grant (Ville de Nice) for a postdoctoral fellow (2018–2020). The team obtained the prestigious labelling support of FRM (2019-22).

The team is very well recognised in their research field at the national level, as evidenced by many invitations to national meetings (14). Four invitations of the team's members were noted in international meetings.
They are very active in disseminating their research findings to national and international meetings (12 oral communications and 7 poster presentation), like The European Association for the Study of Diabetes (EASD).
They also co-organised three international symposia (EASD in 2017 and AFERO from 2017 to 2021).

The team has participated in the activity of 'sociétés savantes' (SFD, FFRD, AFERO), and acted as experts in research committees (Inserm, Cochin institute, Lyon University and UCA). Members also demonstrate editorial activities in Diabetologia and Frontiers in Endocrinology.

They published their result in a very regular way, as attested by seventeen articles signed in main position and published in very good reputation journals (e.g. Cell Rep 2018, FASEB J, 2020; Sci Report 2017).

They also demonstrated 28 co-authored publications, two of them published in top journals of the domain (e.g. Cell Metab 2019 with a Canadian group, Nature Metab with a German, group). Of note, two high impacted publications reported novel dysfunctional regulatory mechanisms in adipocytes of obese patients, involving DNA damage and P53 pathway (Diabetes 2016) and dysfunctional trafficking protein in adipose T cells (Cell Report 2018). Both mechanisms lead to inflammation of adipose tissue and insulin resistance.

The team is highly involved in teaching at the UCA and in advanced courses. Since September 2021, two members of the teams are coordinators of a new training course 'Obesity and cardiometabolic disease' in the UCA Master program 'Life Sciences' and several team members are giving lectures in UCA.

Weaknesses and risks linked to the context

The technical support of the team is currently limited as well their interaction with clinicians.
The interaction with the private sector is not demonstrated by patent filing or industrial contracts.

RECOMMENDATIONS TO THE TEAM

Regarding the excellence of the projects developed in the team and the funding obtained during the contract, the committee recommends publishing the results in higher visibility journal and to valorise their results through clinical studies and/or patents.

Team 8: Chronic liver diseases associated with obesity and alcohol

Name of the supervisor: Mr. Philippe Gual

THEMES OF THE TEAM

The aim of the team is to better understand the hepatic pathologies associated with obesity and alcohol consumption.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team addressed all recommendations from the previous evaluation. Specifically, they continue to publish in a high level. They successfully developed collaborative projects with other C3M teams (10 publications and one ANR grant). They succeeded in the identification of a new marker (CD44) and pathway involved in NAFLD and NASH.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	4
Lecturer and associate lecturer	1
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	2
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	2
Subtotal permanent personnel in active employment	**10**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	0
Post-docs	0
PhD Students	3
Subtotal non-permanent personnel	3
Total	**13**

EVALUATION

Overall assessment of the team

Scientific output is excellent with seminal contributions in the field of liver diseases published in top journals of the speciality (J. Hepatol 2017, 2018, Hepatology 2017 and 2018).
The attractiveness is overall excellent as attested by the impressive number of successful competitive grants (3 ANR, 2 ARC, 1 PHRC) and supervision of ten PhD students.
The valorisation is excellent with a remarkable transfer activity of fundamental research to the clinic with three patents and two industrial contracts.

Strengths and possibilities linked to the context

The team is very attractive in recruiting PhD students (10). All of them published at least one first author publication (J. Hepatol 2018, Hepatology 2018, FEBS J, 2020, Biochim Biophys Acta Mol Basis, 2020, Sci Rep, 2020, JGH Open, 2020, …)

The team is very successful in getting funding from national (5 ANR total 3 as PI; 1 PHRC) and from industries (NashPharma, DIAFIR), six grants from foundations (2 ARC, Ligue contre le cancer, 2 SFD…).

The team's expertise in the research domain is very well recognised at the national and international level, as attested by their invitation to act as reviewers for national agencies (e.g. ANR) and high reputation journals of the domain (e.g. Hepatology, Gastroenterology, Oncogene, …). They also participated in meetings organisation (4) and activity of scientific societies (2) of the domain. They were also involved in sharing knowledge with the general public (5 interviews, 1 book and 3 MOCS).

The scientific production is regular and in high impact journals, thanks to multidisciplinary research combining in vitro and human samples. The tight interaction between clinicians and scientists of the team promotes the innovative translational nature of their research. During the last period, they published 35 articles as main author, six in high impact journals such as J. Hepatol (2017, 2018), Hepatology (2016, 2018), J AMA surg (2020), Ann Surg (2018), 23 reviews and 57 articles as co-authors including Cancer Cell (2016), Lancet (2019), Cell Metab (2018), Circulation (2018) Gut (2016, 2017), Gastroenterology (2016, 2017, 2019), One of their articles identified the immune cell surface CD44 as a new marker and key player of non-alcoholic steatohepatitis (NASH). Interestingly, targeting CD44 corrected (partly) NASH, making this molecule a biomarker and a potential therapeutic target for this disease. Part of their scientific production stems from successfully internal collaborations (e.g. teams 7 with a paper in FASEB J; Team 12 with a paper in Cancer Cell; , 2016; Team 3 with a paper in Cell Metab, 2018). The team also developed successful national (Cochin Institute, CRO and Pasteur Institute of Paris), and international collaborations (e.g. labs from Netherlands, Germany, Chile and USA), resulting in excellent publications (e.g. J Hepatol (2016, 2017, 2018, 2020), Cancer Cell (2016)).

The team is very dynamic in interacting with the private sector as attested by several interactions with industry (Nashfarm, DIAFIRM) and three patents during the contract.
The organisation of the team with a balanced representation of clinicians and researchers is well suited to develop fundamental and translational projects.

The team regularly communicate their results to the general public in the press media (Nice matin, 60 millions de consommateurs).

Weaknesses and risks linked to the context

The recruitment of postdocs for the period is limited.
With 8 HDR, only five PhD defences were supported by the team.

RECOMMENDATIONS TO THE TEAM

The committee encourages the team to continue their research activity at an excellent level. They recommend the team to increase their participation in an international meeting.

Team 9: Immune Cells and Cardiometabolic Disease

Name of the supervisor: Mr. Giulia Chinetti and Mr. Jaap G. Neels

THEMES OF THE TEAM

The team investigate the roles of immune T and macrophage cells in a panel of cardiometabolic diseases (obesity/diabetes, atherosclerosis, Abdominal Aortic Aneurisms, heart failure).

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

An effort has been made to address the recommendations of the previous evaluation. Notably, the team has made some effort to integrate the clinical researchers and they have increased their main scientific production with 35 scientific and 179 clinical publications.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	4
Lecturer and associate lecturer	4
Senior scientist (Directeur de recherche, DR) and associate	0
Scientist (Chargé de recherche, CR) and associate	1
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**10**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	0
Post-docs	0
PhD Students	1
Subtotal non-permanent personnel	1
Total	**11**

EVALUATION

Overall assessment of the team

The scientific activity suffers from a lack of scientific consistency between various research projects and limited connection with the clinicians. Scientific production is good (Sci Rep in 2016, 2018; 3 FASEB) with a very good publication activity in the clinical field outside of the team's research scope.
Attractiveness is good overall, with four PhDs, some of which have been financed by industry; however the committee noted a decrease in funding and human resources during the contract.

Valorisation activity is very good, with one clinical trial and one filed patent.

Strengths and possibilities linked to the context

The attractiveness of the team is demonstrated by four PhD students training during the period (2 medical doctor and 2 scientists) and one postdoc. All of them have produced on the main author publication.

Their financial resources stem from a European (EFSD) grant (2018–2021), three national (2 ANR as coordinator and partner PHRC) and ten local/regional grants (UCA).
They also obtained specific contracts with the non-academic sector (Therascience and Institut Polyclinique de Cannes — IPOCA).

Their scientific visibility is attested by presentations of their work in the form of oral presentations at 32 national and 23 international meetings such as ESVS Poland 2020, Vascular meeting USA 2017 and VEITH USA 2016, and posters at seven national and 21 international meetings (Société d'Athérosclérose 2,018.2019 and 2021, ESVS Denmark 2016, Germany 2019). They participated in several evaluation committees (HCERES, CNU, ANR, European organisations) and are members of different editorial boards (Atherosclerosis, Frontiers in endocrinology, Journal of clinical medicine). Several team members obtained scientific awards (IDEX 2021, Ginestia 2021, Académie de chirurgie 2016). During the period, the team participated to 26 thesis defences (17 scientific and 9 medical) and nine HDR committees.

The team is very good in publishing their translational work (179 clinical articles including 97 as FLC authors) and participating in clinical trials (a total of 40). The fundamental/preclinical research activity is also very good as attested by 35 articles over the period (20 as FLC authors, Sci Rep in 2016, 2018; FASEB J in 2016, 2019, 2021). They also published high-profile publications from collaborative studies (Circulation Research in 2017, Cancer Cell in 2019, J. Clin Invest in 2021). Of note, they demonstrated that alpha lipoic acid increases expression of PPARbeta receptor and its supplementation ameliorates the efficacy of exercise and diet-induced obesity treatment by inducing immunometabolic changes in women.

The team has several interactions with companies including financial supports for PhD (1 entirely funded) and clinical trials (Therasciences 2018, IPOCA 2017–2020). Regular meetings with the SATT demonstrate the team's interest in the valorisation of their findings as attested by one patent and a proof of concept (CoPoc). Besides, they are developing new AI-based methods to improve prognosis and patient care.

Both scientists and clinicians are involved in student training and teaching in different UE/DU/DES and Master programs. Three team members obtained their HDR during the period.

Weaknesses and risks linked to the context

The research activity lacks sufficient focus.
The developed research program is not clearly defined.
The link between fundamental and clinical research is not clearly specified.
The attractiveness of young researchers remains on the low side.

RECOMMENDATIONS TO THE TEAM

Based on the current human resources and funding, the committee suggests that the team reconsiders its research activity as an independent team in C3M. In this view, team members are encouraged to discuss with other research teams in order to consider their future directions.

Team 10: Control of gene expression (COdEX)

Name of the supervisor: Mr. Michele Trabucchi

THEMES OF THE TEAM

Team 10 works on post-transcriptional regulation by non-coding RNAs, with an emphasis on high-throughput analysis of miRNA-guided regulation; transgenerational inheritance through sperm-borne RNAs; and the role of non-coding RNAs in macrophage metabolism.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The previous HCERES report recommended to keep shifting towards more clinically relevant projects. The team has followed that advice, with a novel project dealing with cardiometabolic disorders (epigenetic inheritance of clinical traits; identification of RNA biomarkers), and with additional collaborations with clinical teams. The HCERES report also asked for a sustained development of academic reputation and appeal. In an effort to follow that advice, the team has gathered more funding, and attracted several new members.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	0
Lecturer and associate lecturer	1
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	1
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**4**
Non-permanent teacher-researchers, researchers and associates	1
Non-permanent research supporting personnel (PAR)	1
Post-docs	0
PhD Students	3
Subtotal non-permanent personnel	5
Total	**9**

EVALUATION

Overall assessment of the team

Excellent scientific production, including a seminal study on epigenetic transgenerational inheritance of a metabolic trait (Nat Commun 2017, NAR 2017&2021, Elife 2021).

Attractiveness is excellent as attested by successful competitive grants (3 ANR as PI and 1 labellisation FRM) and supervision of many PhD students and post doc. The team leader built a nationally recognised expertise in the high-throughput identification of microRNA/target interactions. They attracted a bio-informatician with a permanent position, which is a noticeable success in a highly competitive job market.

Valorisation activity is very good, with an ongoing contract with an industrial partner.

Strengths and possibilities linked to the context

Team 10 is an established team, with an international recognition in the field of small non-coding RNAs. During the evaluation period, several members with permanent positions joined the team demonstrating their attractiveness (1 assistant professor, 1 emeritus researcher, 1 clinician, and 1 bioinformatician in January 2020; securing a permanent bioinformatician is always a critical issue and Team 10 has been successful on this competitive job market.). Over the evaluation period, the team trained twelve PhD students (2 are still ongoing), including foreign students. It also attracted four postdocs and ten master students. Most tenured researchers in the team (5 out of 6) hold an HDR degree.

The team has been successful in attracting funds in a sustained manner over the years, mostly from national funding agencies (2 extra-European contracts as coordinator from Lebanon; one European contract Marie Curie career integration grant, 2013–2016 as coordinator; Five national contracts as coordinator (3 ANR, 1 Agence de Biomédecine, 1 Minnistère de la recherche) and two national contracts as partner; Four local contracts as coordinator (2 Cancéropôle, SATT-Sud Est, IDEX UCA) and one local contract as partner; seven charity contracts as coordinator (labelisation FRM, LNC, ARC, ,...) and 1 charity contract as partner) and from an industrial partner (BASF). Two recently recruited PhD students are paid by the lab's grants.

The team has a nationally recognised expertise in high-throughput analysis of miRNA/mRNA interaction (CLIP, proteomics). They published seventeen research articles as the main author position over the period, with some in high impacted journals (Nat Commun 2017, NAR 2017&2021, Elife 2021). For instance, the article published by the team in *Elife* in 2021 addresses a long-standing and controversial issue (transgenerational inheritance of a physiological trait through epigenetic transmission in mammals). Using a carefully designed experimental plan, and rigorously controlled phenotypic assessment, that article is a major advance in a dynamic, heavily scrutinised and controversial field. It should set a new standard for the analysis of transgenerational transmission of epigenetic traits.

The team's activity is divided into three axes ('microRNA', 'immune and inflammatory diseases' and 'epigenetic inheritance'), and each of the three axes has published some visible articles in their respective field since 2016. Including published work by new lab members, dealing with their previous research projects (hence: not directly from the team's work), the team has published 85 articles since 2016, including nineteen articles where a member of Team 10 is a corresponding author.

The team has an ongoing contract with BASF. Team members participate every year to science popularisation festival 'Fête de la science' for the lay public.

Team 10 is composed of permanent and non-permanent researchers in similar proportions, ensuring appropriate training for young researchers. Thoughtful and rigorous data quality procedures have been set up, involving duplication of experiments by distinct researchers, and benchmarking of computational pipelines developed in the team.

The team participates actively in public outreach efforts (Fête de la Science, interviews in national and local newspapers, analysis of the benefits of organic food served in school restaurants).

Weaknesses and risks linked to the context

One of the three research axes ('Immune and inflammatory diseases') appears to progress slower than the other two. Several members of the team publish most of their work without any contribution from other team members, which raises questions about their real involvement in the team.

RECOMMENDATIONS TO THE TEAM

Axis 'Epigenetic inheritance' deals with a highly competitive and controversial topic, and as such it would greatly benefit from a better international exposure, with oral presentations at international conferences. Axis 'Immune and inflammatory diseases' may prove difficult to pursue if it does not progress as well as the other two axes. The team should also promote better integration of every lab member into common projects, *e.g.* with projects involving both clinical and scientific members of the team.

Team 11: Microenvironment, Signalling and Cancer

Name of the supervisor: Mrs. Sophie Tartare-Deckert ans Mr. Marcel Deckert

THEMES OF THE TEAM

Team 11 has focused its research on the crosstalk between cancer cells and their microenvironment in melanoma and extracellular matrix and fibroblasts of the lymphoblastic niche.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team addressed the recommendations of the previous report. They published in high impact journals. They recruited two foreign postdocs who had performed their PhD in this laboratory, one of them was co-supervised by a South African laboratory.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	0
Lecturer and associate lecturer	1
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	3
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**7**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	2
Post-docs	1
PhD Students	5
Subtotal non-permanent personnel	**8**
Total	**15**

EVALUATION

Overall assessment of the team

The scientific production is original and excellent with high-level publications (Oncogene 2019, Cancer Res 2020) and remarkable contributions on the dialogue between tumorous cells and the extracellular matrix in melanoma.
The attractiveness is outstanding regarding the capacity to raise important funds (1 ANR, 5 ARC and 2 label LNCC), to attract thirteen PhD students, and more prominently by the exceptionally active involvement of the team leaders in administrative duties.
The valorisation is excellent, since their research activities have led to five patents, to close interactions with various cosmetic and pharmaceutical companies, and to media exposure.

Strengths and possibilities linked to the context

The team demonstrates an excellent capacity to attract national and foreign young researchers (South Africa, Italy, Tunisia). Specifically, they have trained thirteen PhD students (2 being supported by the LABEX, 3 by la Ligue Nationale Contre le Cancer, one is a medical student from the CHU, six by MRT, and one UCA/University Cape Town joint program) and hosted two postdoctoral researchers supported by FRM and INCa. Two PhD students were granted with Hélène Starck prize from ARC, and six students got the best oral presentation in meetings. Most of the PhD students published original articles as (co-) first author. PhD students and postdocs are associated with patents.

The overall capacity of the team to obtain research funding for the period is excellent with 8 national grants, as coordinator (1 INCa PLBIO, 1 ANR PRC), local (4 Emergence Canceropole PACA and 1 Innovation PACA), and 2 CoPoc Inserm Transfert). From charities, they obtained two competitive labelisation of La Ligue contre le Cancer (LNCC), nine ARC (4 for students and 5 contracts from the PI, co-PI and senior researchers), and two FRM (PhD student and member compensation scientific council), and one SFD.

The team is well recognised at the national and international level as evidenced by their many invitations to congress or institutes of the domain of cancer biology in France (22 invitations as speakers including Curie Institute, IAB, IGDR, OncoAge meeting) and abroad (4 invitations ESPCR, ESMED, University of Cape Town).

Three senior scientists of the team are co-organisers of three international symposia (inflammation and diseases [2018] and Labex Signalife [2020]) and five national symposia. The team leader was president of one of the ARC commissions, president of the scientific council of Canceropole PACA, and is currently a member of different French organisations including FRM, ITMO Cancer and the scientific council of Inserm. The co-leader was a member of one of the ARC commissions and is currently a member of an LNCC commission and CSS2 of Inserm.

The team has produced 52 publications, including 25 fundamental original articles. Ten out of the 25 have been published as (co) first/last authors over the period, including six in excellent reputation journals in the domain of cancer and cellular and molecular biology: Cancer Research 2020, Oncogene 2019, Mol Cancer Ther. 2018, Cell Mol Gastroenterol Hepatol in 2021 during the current mandate. Excellent reports were published recently including two EMBO Mol Med early 2022.

In 2020, they published two important papers in Cancer Research and Cancers on melanoma resistance. Indeed, they reported that upon sustained therapeutic inhibition of MAPK signalling pathways, surviving cells adapt and resist their treatment through a YAP/MRTP feed-forward loop that is associated with their ability to sense the environment and their rigidity. Furthermore, the therapeutic resistance generated can be overcome by targeting of tyrosine kinases and receptor for collagen DDR1 and DDR2 (EMM x2).

The link with the non-academic sector is overall excellent as attested by five accepted patents.

Students and postdoc fellows are trained for science, statistics and ethics; it is excellent. PhD students are well trained, with most of them publishing as first/co-first author in Cancer Research, Oncogene, and EMM.

The organisation of team 11 is totally coherent at the quantitative and qualitative levels, with staff scientists, staff technicians/engineers, postdocs and PhD students.

Weaknesses and risks linked to the context

Currently, the Team did not raise industrial contract but raise sufficient amount of money with national and associative grants.

RECOMMENDATIONS TO THE TEAM

The team should continue to increase their international visibility via their interactions with European laboratories, applications to European grants and recruit foreign postdocs. They are encouraged to continue to publish in high-profile journals.

Team 12: Study of Molecular Mechanisms Involved in Pigmentation and Melanoma Using Translational Approaches

Name of the supervisor: Mr. Stéphane Rocchi and Mr. Thierry Passeron

THEMES OF THE TEAM

Team 12 focuses on pigmentation and melanomagenesis using the translational approach.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team followed the recommendations of the previous evaluation. Notably, they increased the quality of their scientific production by publishing in high impact journals. They developed international collaborations and applied for an American grant on melanoma.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	1
Lecturer and associate lecturer	2
Senior scientist (Directeur de recherche, DR) and associate	2
Scientist (Chargé de recherche, CR) and associate	2
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**8**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	1
Post-docs	1
PhD Students	4
Subtotal non-permanent personnel	**6**
Total	**14**

EVALUATION

Overall assessment of the team

The scientific production is excellent with outstanding contributions in vitiligo and melanoma therapy published in high quality journals (Cancer Cell 2016, Nature Commun 2019).

The attractiveness is exceptional in regard to the ability of securing funding (2 INCa, labélisation FRM), the recruitment of two young researchers during the contract and the successful supervision of eleven PhD students.

The valorisation is outstanding, as attested by the filing of nine patents leading to the creation of two start-up companies, one of them raising important funds to achieve the next step and five industrial partners.

Strengths and possibilities linked to the context

The team demonstrates an excellent capacity to attract French and foreign young researchers (Brazil and Italy). They have recruited eleven PhD students (9 being supported by UCA, one in co-badging with Team 2 supported by UCA, and one is a medical student from the CHU) and seven postdoctoral researchers, including two supported by the ARC fellowship, two by the Fondation de France fellowship and one by SATT SE fellowships and recruited two Inserm CRCN researchers. Most of the PhD students published original articles as (co-) first author. PhD students and post-doc can be associated with patents.

The overall capacity of the team to obtain research funding for the period is excellent with three national grants, including two as coordinator (1 INCa PLBIO, 1 INCa PRTK); Three local grants as PI (1 SATT SE, 1 Canceropole PACA, UCA) and three from charities and foundations as PI ((1 ARC, 1 FDF) and a recent competitive label of FRM.

The team is well recognised at the national and international level as evidenced by their many invitations to congresses of the domain of cancer biology in France (52 invitations: 7th Scientific days on Autophagy, France; European Society for Pigment Cell Research (ESPCR), France, 2018; French Society of Allergology (FSA), France, 19–22 April 2016) and abroad (38 invitations) (e.g. XI International Melanoma Workshop, Italy, 2019; World Congress of Dermatology, 2019, Vitiligo International Symposium (VIS), India, 2021).
One of the team leaders co-organized three international symposium on Cancer and Metabolism (Palavas les Flots in 2016, Marseille in 2019 and Bordeaux in 2021). Members of the team also act as experts to national scientific committees (ANR, Ligue, Canceropole, FDF).

The quality of the scientific productions is overall excellent, with 50 papers published (excluding clinical publications) in international journals since 2016. Of note they published fifteen original publications in senior/co-senior position in high impacted journals including Cancer Cell (2016), Nat Commun (2019), Cancer research (2021), Cell Rep (2019).
Notably, they have identified a new compound that kills melanoma cells and characterised its action mechanism. Similarly, they deciphered new mechanisms of vitiligo development and identified a new receptor involved in this process. These findings may have therapeutic implication in these human diseases.

The link with the non-academic sector is outstanding with eleven patent applications (4 are licensed). The tight link between researchers and clinicians enables research projects from the bed to the bench and vice versa. Their unique access to human samples led to successful interactions with pharmaceutical companies start-up creation. Notably, the importance of the work in melanoma of the team has led to the creation of two start-ups (YUKIN therapeutics and BIPER therapeutics), each co-founded by one of the team leaders. Collaborations with five industrial partners (JW Pharmaceutical, ISIS Pharma, SVR group, INDERM, ALMIRALL) have also been established and new molecules developed may be tested in the clinic soon.

The team gave 50 interviews to the general public (press regional, national, radio, websites, TV) in the field of vitiligo, photoprotection, melasma, pigmentary disorders, melanoma and new anti-melanoma molecules and participated in the "la fête de la science".

Weaknesses and risks linked to the context

The lack of sufficient space may be a risk to develop their ongoing research projects.

RECOMMENDATIONS TO THE TEAM

The committee recommends the team to continue their excellent research activity.

Team 13: HEMAtometabolism and METAinflammation (HEMAMETABO)

Name of the supervisor: Mr. Laurent Yvan-Charvet and Mrs. Beatrice Bailly-Maitre

THEMES OF THE TEAM

The aim of Team 13 is to investigate the links between metabolism and inflammation, and the crosstalk between metabolic and haematopoietic organs, particularly in the context of cardiometabolic diseases and cancer.

CONSIDERATION OF THE RECOMMENDATIONS OF THE PREVIOUS REPORT

The team has followed the recommendations of the previous HCERES evaluation by increasing the scientific publications from 38 to 53 publications including original articles and reviews, obtaining an Inserm CRCN position for one of the postdocs of the team, and increasing their participation in outreach activity.

WORKFORCE OF THE TEAM

Permanent personnel in active employment	
Professors and associate professors	0
Lecturer and associate lecturer	0
Senior scientist (Directeur de recherche, DR) and associate	1
Scientist (Chargé de recherche, CR) and associate	**2**
Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées)	0
Research supporting personnel (PAR)	1
Subtotal permanent personnel in active employment	**4**
Non-permanent teacher-researchers, researchers and associates	0
Non-permanent research supporting personnel (PAR)	2
Post-docs	1
PhD Students	5
Subtotal non-permanent personnel	**8**
Total	**12**

EVALUATION

Overall assessment of the team

Scientific output is outstanding with seminal contributions in cardiovascular diseases published in high-impacted journals. Of note, the team published a seminal study on macrophage metabolism and its role on efferocytosis (Nat Metab 2021, Nat Commun 2021).

Attractiveness is outstanding as attested by multiple grants as PI including an ERC consolidator grant and 3ANR, multiple invitations to top tier conferences, and recruitment during the contract of a postdoc fellow as a permanent Inserm researcher.

The valorisation is excellent with three patents filed during the contract and consultancy activities with major pharmaceutical companies.

Strengths and possibilities linked to the context

The team is directed by a young, very dynamic researcher, previously granted by the ATIP-Avenir program (2013–2018) and promoted as Research Director Class 1 (DR1) in 2021.

The team is attractive for young scientists as 8 PhD students joined the team during the period. Most of them were supported by national funding and one through an industrial partnership between Inserm-PACA and the company Neoscience. Most of the PhD students published as (co-) first author during their PhD in high-profile journals (Nat Metab 2021; Nat Commun 2021; Cell Rep 2020; Circ Res 2018…). The four PhD students that defended their thesis all had publications as first authors. The team also attracted four postdoctoral fellows during the period, however, three of them left the lab a year after being recruited and only one published a (co-) first author paper.

The capacity of the team leader to obtain financial support is attested by an ERC consolidator grant in 2017–2023. Members obtained two EU contracts as PI (Marie Curie CIG, ERA-CVD), six national grants (4 as PI such 3ANR, 1 Atip/Avenir), and several local (IDEX) and four charity funds (1ARC, 3Fondation de France as a PI). Also, one permanent researcher obtained a competitive ANR JCJC grant and as a young investigator grant from the European Research Area Network on Cardiovascular Diseases.

The national and international reputation of the team is attested by several invitations in national and international institutions and prestigious international meetings (e.g. Cell symposium, Keystone and Gordon Conferences). The team leader acted as an expert for the French national Research Agency (section Physiopathology) or elected member of Inserm CSS3. He is a board member of the "Nouvelle Société Francophone d'Athérosclérose (NSFA)" and participated in the organisation of several scientific meetings.

The team published 30 original articles and 23 reviews in prominent journals, including six senior publications in Nat Metab 2021, Nat Commun 2021, Cell Rep 2020, 2 Cir Res 2,016.2018). Particularly, the team published recently a landmark article investigating the role of metabolic pathways in macrophages that are essential during efferocytosis (elimination of apoptotic cells) to maintain systemic homoeostatic mechanisms in tissues and cardiovascular system. They uncovered a critical role for glutaminase-1 mediated glutaminolysis in efferocytosis and showed that impairment of this pathway increases the risk of cardiovascular diseases such as atherosclerosis. These studies were published in Nat Metab in 2021.

The PI also demonstrates collaborative publications in top journals, e.g. Immunity, J Exp Med, Nat Commun, Cir Res and Nat Immunol. Particularly, the team published recently a landmark article investigating the role of metabolic pathways in macrophages that are essential during efferocytosis (elimination of apoptotic cells) to maintain systemic homoeostatic mechanisms in tissues and cardiovascular system. They uncovered a critical role for glutaminase-1 mediated glutaminolysis in efferocytosis and showed that impairment of this pathway increases the risk of cardiovascular diseases such as atherosclerosis. These studies were published in Nature Metabolism in 2021.

The team filed three patents over the period and developed a bioinformatics software freely accessible to the community, which allows integration of metabolic and expression data. The team leader is involved in consultancy activities with major pharmaceutical companies such as Novartis or Pfizer. Consulting activities are reported for other team members.

The team is very active in promoting communication of their research activity to the general public via the "Fête de la Science" or "ConnaiSciences", public seminars organised at the regional level or at the national level through "Institut thématique" and publications in 'Science et Vie'. The team is also involved in educational programs for young audiences by participating to open days and school visits to promote scientific research to children.

Team members and particularly the team leader are involved in teaching and training activities at the UCAI (lectures for master students at Nice University), national (lectures at IPBS Toulouse, organisation of the annual system biology workshop of Inserm) and international levels (lectures at EAS Advanced Course in Vienna, participation in EAS meeting and satellite symposium; organisation of joint meeting between FHU Oncoage Nice and MD Anderson Cancer Center USA).

Weaknesses and risks linked to the context

No specific weakness identified

RECOMMENDATIONS TO THE TEAM

The committee recommends that the team continue developing their remarkable research activity.

CONDUCT OF THE INTERVIEWS

Date(s)

Start: 03 janvier 2023 à 8 h 30

End: 05 janvier 2023 à 17 h

Interview conducted: on-site

INTERVIEW SCHEDULE

Jan 3rd:

8:30 a.m.-9 a.m.	Arrival of the committee/Coffee
9 a.m.-9:40 a.m.:	Patrick Auberger, director of the unit: administrative and scientific presentation
10 :00–10:50	Team7, Jean-François TANTI — Physiopathologie moléculaire et cellulaire de l'obésité et du diabète
10:50-11 : 40	Team8, Philippe GUAL — Maladies chroniques du foie associées à l'obésité et à l'alcool
11:40 - 12 h 30	Team13, Laurent YVAN-CHARVET, Hémato-métabolisme dans les maladies humaines
12:30-13 : 30	Lunch
14 h - 14 h : 50	Team9, Giulia CHINETTI, Réponses adaptatives aux dérégulations immuno-métaboliques
14:50-15 : 40	Team6, Laurent BOYER, Cibles des toxines microbiennes dans les maladies humaines
15:40-16 : 30	Team10, Michele TRABUCCHI, Expression génique et biologie des ARN
16:30-17 : 00 :	Coffee break
5 p.m.-5:50 p.m.	Debrief of the day: fill out the Assessment Boxes for the teams

Jan 4th:

9 a.m.	Arrival of the committee/Coffee
9:30-10:20	Team 2, Patrick AUBERGER, Leucémies myéloïdes: Mécanismes, physiopathologie et nouvelles thérapies
10:20-11 : 10	Team 3, Jean-Ehrland RICCI, Métabolisme, cancer et réponses immunes
11 h 10 - 12 h	Team 4, Jean-François PEYRON, Cancer: addictions moléculaires, résistances et cellules souches leucémiques
12 h 30-13 : 30	Lunch
13 h 30 - 14 h : 20	Team1, Corine BERTOLOTTO, Biologie et pathologie des cellules mélanocytaires : de la pigmentation cutanée au mélanome.
14:20-15 : 10	Team 11, Marcel DECKERT, Microenvironnement, signalisation et cancer
15 h 10 - 16 h	Team 12, Stéphane ROCCHI, Mécanismes moléculaires impliqués dans la pigmentation et le mélanome : approches translationnelles
16:00 - 16 h 50	Team5, Frédéric BOST, Ciblage du métabolisme des cellules de cancer de la prostate
17 h - 17 h 30	Coffee break/30 min
5:30 p.m.-18 :30	Debrief of the day: fill out the Assessment Boxes for the teams

Jan 5th

8:30 a.m.-9 a.m.	Arrival of the committee/Coffee
9:00-9:30 a.m.	3 Meetings
Salle 1 :	Meeting with Managing staff (administrative and technical staff).

Représentants ITA : Philippe Rostagno rostagno@unice.fr/Véronique Corcelle, corcelle@unice.fr
Salle 2 : Meeting with Scientists (researchers not team leader, postdocs, others)
Représentant Chercheurs : Guillaume Robert, robertg@unice.fr/Jennifer Jager, jennifer.jager@univ-cotedazur.fr
éventuellement Représentant Cliniciens : Raymond Ruimy, ruimy.r@chu-nice.fr
Salle 3 : Meeting with Students (stagiaires, PhD)
Représentant étudiant : Marion Janona, marion.janona@unice.fr

9:30 a.m.-10:30	Debriefing of the committee on the 3 groups
10:30-11:00	Meeting with the managing bodies:

Inserm: Dominique Nobile (délégué régional) et Alain Eychene (IT Cancer)
Université Cote d'Azur : Noel Dimarcq

11:00 – 12:00	Discussion with the director + deputy + future director
12:30-1:30 p.m.	Lunch

Final debriefing of the committee: Write the Global Assessment

5 p.m.	End of the Visit

PARTICULAR POINT TO BE MENTIONED

NA

GENERAL OBSERVATIONS OF THE SUPERVISORS

Présidence et
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UNIVERSITÉ CÔTE D'AZUR | Inserm

Direction de la Recherche, de la Valorisation et de l'Innovation
Mme Johanna ZERMATI
Directrice

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Affaire suivie par :
Mme Delphine ISCAYE
Gestionnaire

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GRAND CHÂTEAU
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BP 2135
06103 NICE CEDEX 2

Le 21 Mai 2023,

à l'attention du Haut Conseil à
l'Evaluation de la Recherche
et de l'Enseignement Supérieur

Objet : **Observations de portée générale**

Unité : DER-PUR230022992 - C3M - Centre Méditerranéen de Médecine Moléculaire.

Dear Madam, Sir, to all concerned,

First, we would like to express our sincere thanks to the members of the HCERES evaluation committee for the huge amount of work they did during and after the on-site visit to C3M and its teams. We would also like to thank all the representatives of our supervisory bodies who were also present during the visit. We greatly appreciated the organization and conduct of the visit and the quality of the exchanges with the evaluation committee. Finally, we appreciated the very balanced and constructive report as well as the recommendations established on this occasion.

Regarding the evaluation of C3M, we agree with the positive and constructive evaluation of our institute and with the sound recommendations made by the committee.

Specific comments from the teams

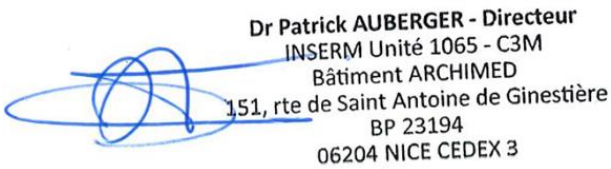
The teams, through their leaders, also wish to join C3M management in emphasizing the very constructive work of the committee. They would also like to thank the evaluation committee for its recommendations.

Teams 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12 and 13 sincerely thanks the HCERES committee for the objective evaluation of their work, as well as for their recommendations and have no comment to make to the HCERES.

Team 7 wishes to point out that since the end of 2020 it no longer has a permanent engineer (because they have been available since that date), but that it hosted 3 engineers on contract during the evaluation period, which puts into perspective the committee's comment that technical support was limited (please refer to the report on page 29).

Done in Nice, May 21, 2023

Patrick AUBERGER
Director



Présidence et services centraux

Nice, le 5 juin 2023

Direction de la Recherche, de la Valorisation et de l'Innovation
Mme Johanna ZERMATI
Directrice

drvi-recherche@univ-cotedazur.fr

à l'attention du Haut Conseil à l'Evaluation de la Recherche et de l'Enseignement Supérieur

Affaire suivie par :
Mme Delphine ISCAYE
Gestionnaire

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delphine.iscaye@univ-cotedazur.fr

Objet : **Observations de portée générale**

Veuillez trouver ci-après les observations de portée générale d'Université Côte d'Aur concernant l'unité **DER-PUR230022992 - C3M - Centre méditerranéen de médecine moléculaire.**

Université Côte d'Azur tient à remercier l'ensemble du comité HCERES pour le travail, conséquent et de qualité, d'analyse et d'évaluation des activités de l'unité C3M. Les appréciations et recommandations du comité sur les différents domaines d'évaluation sont très utiles pour positionner les activités de l'unité et apporter des éléments sur lesquels s'appuyer pour consolider la vision prospective de l'unité.

L'établissement n'a pas d'observations de portée générale autres que celles formulées par l'unité.

UNIVERSITÉ CÔTE D'AZUR 27.07.2019

Pour le Président d'Université Côte d'Azur
et par délégation,
Le Vice-Président Recherche et Innovation

Noël DIMARCQ

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Présidence et services centraux

UNIVERSITÉ CÔTE D'AZUR | Inserm

Nice, le 27 janvier 2023

Direction de la Recherche, de la Valorisation et de l'Innovation
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à l'attention du Haut Conseil à l'Evaluation de la Recherche et de l'Enseignement Supérieur

Affaire suivie par :
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Objet : **Observations de portée générale**

L'INSERM n'a aucun commentaire à formuler concernant les rapports d'évaluation des unités de recherche dont il est tutelle :

- **U 1065 / UMR 1065** C3M
- **U 1091 / UMR 7277** IBV
- **U 1081 / UMR 7284** IRCAN

Signature Tampon

Dominique Nobile
Délégué Régional Inserm
Provence-Alpes-Côte d'Azur
et Corse

Institut National de la Santé Et de la Recherche Médicale

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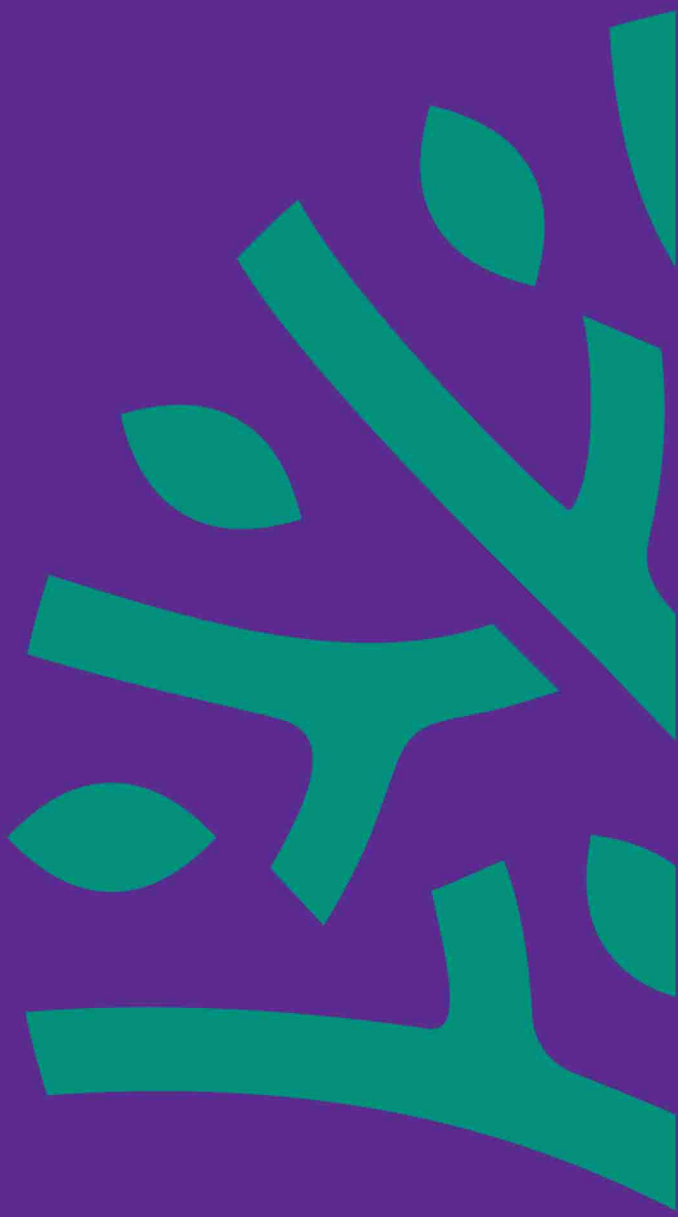

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