[redacted]

December [redacted]

[redacted]
Assistant Professor
Department of Microbiology and Immunology
Department of Oncology
[redacted]

Dear [redacted]

I am delighted to write this letter in strong support of your proposal entitled: "[redacted]". Here, I express my full commitment to serve as your primary mentor together with Dr. [redacted] for the Gilead's Research Scholars, Program in Oncology Solid Tumors Award. You propose a highly timely and important study to identify novel strategies to prevent melanoma relapse by targeting the reactivation mechanisms of minimal residual disease.

In 20[redacted], I was part of the [redacted] award, where you participated, thus, I have witnessed your ability to move forward in the field of cellular dormancy and reactivation of minimal residual disease. You showed a remarkable degree of independence from the very beginning, brought new technologies to the team and greatly expanded our understanding of dormancy and metastasis in the melanoma field. Furthermore, you were able to secure an independent grant to pursue your own ideas on dormancy in melanoma from the [redacted]).

The background of this proposal is very strong. You propose to study [redacted] You have taken advantage from your own data published in [redacted], showing the role of the transcription factor [redacted]. Furthermore, [redacted] function was in fact supported by your collaborative study with Drs. [redacted] on the use of [redacted] as a predicting factor for metastasis-free periods, using bone marrow disseminated cancer cells (DCCs) from breast cancer patients ([redacted] Your work on [redacted] also led to the design of an epigenetic reprogramming therapy that became a pilot clinal trial in 2018 in the context of prostate cancer [redacted]). In addition, you developed a bioassay and

[redacted]

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[redacted]

collaborated with structural biologists to run computational screens and identified an agonist for [redacted] using 3D modelling (***JEM*** *2021*). In this present proposal you aim to use the preliminary data from melanoma showing that MDK prevents dormancy of DCCs by blunting an [redacted] dependnent dormancy program. Moreover, you propose to prevent the inevitable melanoma reactivation of MDK+ DCCs by applying different strategies of dormancy-inducing treatments.

You also pioneered the work on early dissemination in breast cancer in the lab of [redacted] when you were doing your postdoctoral training. This work led to an exceptional study that was published in ***Nature***, back-to-back with another ***Nature*** paper that you also co-authored (***Nature***, 2016). In addition, you have recently published a new paper directly from your new team on a novel function of [redacted] in regulating early dissemination in breast cancer cells (***Cancer Research***, 2022). Overall, your work has been published in excellent journals, providing additional proof of your capacity to collaborate and produce top quality work. These publications highlight your collaborate attitude and the productivity of your group. Overall, your publication record and secured funding show your strong career interest in the field of solid tumors.

I am a [redacted], Associate Director for Laboratory Research at the [redacted], and the [redacted] Chair of the Department of Biochemistry and Molecular Biology at the [redacted]. I was also recently appointed to the National Cancer Advisory Board by President Biden.

I have trained over 50 students and postdocs. They have followed successful careers in academia, industry, business development and education. As a chair I mentor multiple junior faculty as well.
I have published over 130 publications.
I have secured 15 grants over the last 10 years.

My lab focused on [redacted] Wnt signalling and aging. We have recently published a study showing the contribution of aged microenvironments to the dormancy fate of melanoma DCCs (***Nature***, 2022). Thus, I believe have the relevant experience to mentor you towards the completion of your research and career goals in melanoma and metastasis biology.

Mentoring plan: As your primary mentor, I will provide guidance and advice to propel your independent career forward. As needed, I will advise on other items such as academic issues or how to handle personnel and relationships with colleagues.

Frequency of meeting with the Lead Mentor/mentoring committee: We will meet monthly by Zoom to discuss your research progress. Our monthly meetings will consist of you presenting a progress [redacted]

[redacted]

[redacted]

report (30 min presentation) and then we will have another 30-45 minutes to discuss interpretation of the data and provide guidance on future directions. I believe that my expertise in the field melanoma metastasis and residual disease together with the expertise of Dr. [redacted] as a clinician with specialized training in treating melanoma patients, will help you to create a focused experimental plan moving forward.

Complementary courses to advance your career development: You will take advantage of the program of free-standing workshops, workshop series, and full-day seminars offered by the Office of Faculty Development at [redacted] These courses will assist you in improving your educational and professional skills and furthering your academic career.

Presentation of your data: As part of Cancer Center at [redacted] you will participate in the TMM (Tumor Microenvironment and Metastasis) program which takes place quarterly. This TMM program includes investigators from diverse scientific background (e.g. microbiome biology, planar cell polarity, etc) favouring new perspective and fostering internal collaborations that otherwise would not be feasible.
You will also present your data in the seminar series from [redacted]. We will arrange for you have the opportunity to present your data in our internal seminar series at [redacted] as you have previously done in 2[redacted].

Resources: I will particularly provide resources and support for the intriguing data you will generate on a novel interplay between [redacted] and the secreted factor named Midkine in melanoma cells. We have several human and murine melanoma cell lines and mouse models. We have activator and inhibitors of Wnt signalling, which is known to regulate [redacted], thus, we could share these reagents if required. The Gilead award will allow you to launch your independence research and successfully apply for competitive grants in the future (i.e. R01). Having served in multiple recruitment committees, I have witnessed the quality and productivity of new investigators and you are in the top tier of these investigators. In turn, you have my full support.

I have no doubt that you possess the qualities and expertise to develop an independent career in the area of melanoma, and I am very excited to learn about your new findings in the area of [redacted]

Sincerely,

[redacted]

[redacted]

[redacted]

December [redacted]

Name of Candidate: [redacted]

Dear Gilead Award committee:

It is with great pleasure that I write this letter in support of Dr. [redacted] application for the **Gilead's Research Scholars Program in Oncology Solid Tumors** award entitled: "[redacted]". In this letter I convey my commitment to be Dr. [redacted]'s mentor for this award together with the co-mentorship from Dr. [redacted].

During Dr. [redacted]'s postdoctoral training, she discovered a key role of the transcription factor [redacted] constituted the basis of Dr. [redacted] grant in 2017-2020, in where she investigated new strategies to reduce or avoid metastatic relapses by studying the transcriptional dormant programs in disseminated cancer cells (DCCs). This is original and it requires skills and special training in several fields that Dr. [redacted] has proven to have them. Moreover, Dr. [redacted]s lab has recently discovered a new agonist for [redacted] that blocks the metastasis-initiating capacity of DCCs via dormancy induction ([redacted], further strengthening the translational impact of her program. The findings from the NCI K22 grant constitute the basis of Dr. [redacted] grant, which scored in the 10s percentile this year and it will be funded in 2[redacted].

In 2017, Dr. [redacted] secured a [redacted] award. The team included four well-renowned melanoma scientists: Dr. [redacted], Dr. [redacted] Dr. [redacted] and Dr. [redacted] In this project they investigated the contribution of lymphoangiogenesis event as a reporter for pre-metastatic niche during minimal residua disease. The

current proposal has its foundation on this previous grant and aims to functionally correlate the role of Midkine (a lymphoangiogenesis inducer) with the dormancy marker[redacted] in melanoma.

I am an Associate professor (2021 -present) in the Department of Oncology at [redacted]. I am also the director of the Immune Monitoring Core Facility and director of the [redacted] I am also co-leader of the [redacted].I have published 60+ papers in prestigious journals such as Clinical Cancer Research. I have secured 2 R01 grants, 1 UH2/UH3 grant, and I am co-PI on an institutional K12 award. My current grants include an RO1 grant focused pathomics for development of immune biomarkers in melanoma and a UH3 grant focused on an immune gene signature in melanoma as well as the K12 award and a supplement NCI award to study immune responses to cancer in HIV positive patients. I have trained 20+MD students and my past postdoctoral fellow is currently on faculty in pediatric oncology at [redacted]. I work on cancer immunotherapy with a focus on melanoma. Specifically, immune biomarkers for melanoma recurrence to stratify patients for adjuvant immunotherapy using digital pathology and artificial intelligence methods. Thus, I believe I have the experience (mentorship skills and contribution to scientific publications in melanoma) to direct Dr.[redacted] proposed research training.

Mentoring plan: Together with Dr. [redacted] we have delineated a mentoring plan to provide guidance and advice to propel Dr. [redacted]'s independent career forward. The plan consists in monthly meetings by Skype to discuss Dr. [redacted]'s research progress. Our monthly meetings will consist of Dr. [redacted] presenting a progress report (30 min presentation) followed by another 30 minutes of discussion, interpretation of the data and future directions. I will advise on other items such as interpretation of the clinical significance of biopsy analysis based on your proposed markers. We will also invite Dr. [redacted], an expert in dormancy biology and director of the [redacted]

Seminar presentations: You will have the opportunity to present you work on melanoma in seminars and retreats organized by [redacted] and this will foster internal collaborations and provide pre-peer review for grants and manuscripts.

You will take advantage from Biannual series aimed at familiarizing faculty with the promotions process offered by the Office of Faculty Development at [redacted]. You will also participate in our Cancer Therapeutics Program monthly meetings where we review translational research projects in melanoma and other cancers.

Resources: I will provide human biopsy resources to your project. In this regard, we have collected tumor, lymph node and visceral metastasis biopsies from more than melanoma patients as well as the information on the stages of tumor for each patient. We have also available pathology information on followed up recurrences for some patients. All tumor collections are associated with signed IRB approved informed consent from each subject. Selection of samples will occur in a blinded manner to avoid bias. We will provide you with the fixed samples sharing information about each sample. After you finish processing these samples, we will share the stages of cancer and time to recurrence.

Facilities: As you know I am the director of the [redacted] at [redacted] This core provides access to multiplex immunofluorescent imaging and spatial transcriptomics. We can train you and your lab members on the use of these technologies and help with troubleshooting and the data analysis and interpretation. You are currently generating IHC multiplex staining and you will require the use of the Akoya slide scanner which is actually part of our services. I believe the spatial transcriptomics technology will complement and expand your currently proposed sc RNA-seq analysis from isolated DCCs as you could query about the interactions of DCCs with the stroma.

I hope this letter shows that in my view Dr. [redacted] is an exceptional young investigator to develop into a successful independent researcher. Importantly, I am convinced that her novel ideas on metastasis will constructively impact the research of her surrounded colleagues and the metastasis community. I would also like to mention that all of Dr. [redacted]s effort has continued even during the significant disruption caused by the COVID-19 pandemic that actually diverted effort from her personnel to help manage the pandemic at the [redacted] affiliated with the School of Medicine. Further, Dr. [redacted]'s performance was also affected as a mother of a young toddler and the inaccessibility to daycare during the beginning of the pandemic. Despite these unpredictable constraints, Dr. [redacted] has managed to navigate them as shown by her achievements, supporting her resilience and drive.

Overall, I do not hesitate to give my highest possible recommendation to Dr. [redacted] for your prestigious **Gilead's Research Scholars Program**. Please feel free to contact me if you would like any additional information.

Sincerely,

[redacted]