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Review of Dr Damian Jacenik's career, in view of obtaining the Habilitation degree to lead scientific research.

Diploma given by the University of Lodz in the field of natural sciences, and the discipline biological sciences on the title:

Immunotherapy and targeted therapy in the treatment of gastrointestinal cancers.

Dr Damian Jacenik is a young scientist, born in 1990, who got his Doctorate degree at the University of Lodz, Faculty of Biology and Environmental Protection on June 25th 2019. The title of the doctorate thesis, shows that the speciality already concerned a closely related subject, under the supervision of prof. Wanda Krajewska.

He had previously studied for his Master degree (2014) in the same university and same Faculty under the supervision of Professor Wanda Krajewska.

Dr Damian Jacenik has developed actively his career and considerably deepened his expertise in the given field as demonstrated by the amount of publications that appeared as early as during his PhD thesis. He published already a large number of publications with a good impact factor summing up by 13 papers with a total IF 41,418, indicating that the mean IF is >2.0 and 2 chapters in books.

Indeed, considering the papers published in English the IF ranged from 1,9 to 6,6.

Dr Damian Jacenik was first author in four of them.

After his doctoral thesis (obtained in 2019), Dr Damian Jacenik has continued his research in the same scientific field of research i.e. the pathology of the gastrointestinal tract up to the gastrointestinal cancers.

Thanks to his ability to be financed through a NCN, Sonatina grant Dr Damian Jacenik got employed at the same University as an assistant professor since 2019, with a research work done in collaboration with the Department of Biopharmacy from the University of Lublin.

The work gave interesting data on the peptides specific for activation of the ADGRF5 receptor which is involved in colitis and Cancer. This is the object of patent application (any answer?).

The personal remark of the reviewer is that a patent application like a paper submission should not be mentioned until it is obtained or published.

The first mobility occurs in Dr Damian Jacenik's career in 2021 when he could, thanks to the same financial support spend a one year stay in the University of Utah, USA, in the collaboration with Dr

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Heloisa Soares in prof. Ellen J Beswick's laboratory. This stay allowed specialisation training in immunology and malignant transformation.

This approach constitutes the main field of research which gave rise to the set of publications selected by the candidate as his achievement for the habilitation degree. This work may indeed open to new therapeutic strategies.

The six publications that are included in the scientific achievement for the habilitation degree are published in good Journals as *Frontiers in Immunology* (2023) where the candidate is first author, this is the fact for three of those paper:

Jacenic D. et al. doi: 10.3389/fimmu.2023.1212100. IF2022 = 7.331;

as well as Jacenic, D. et al. *Biochimica et Biophysica Acta (BBA) – Molecular Basis of Disease*. 2023, doi: 10.1016/j.bbdis.2023.166683. IF2022 = 6.214,

and Jacenic et al. in *British Journal of Cancer*. 2023, doi: 10.1038/s41416-022-02056-2, IF2022 = 8.836.

In : Jacenic D., et al. *International Journal of Molecular Sciences*. 2022. 23: 13561. doi: 10.3390/ijms232113561, IF2022 = 6.040;

and Kang H., Fichna J., Matlawska-Wasowska K., Jacenic D. *Cells*. 2022. 11: 3876. doi: 10.3390/cells11233876. IF2022 = 5.562,

although those 2 last publications belong to the MDPI group (both from the year 2022) they display a good IF.

They are completed nicely by the review in *Biochimica et Biophysica Acta (BBA) – Reviews on Cancer*, by Said Abu Egal E., Jacenic D., et al. 2021. doi: 10.1016/j.bbcan.2021.188640, with a high impact as IF2021 = 11.414.

The choice of those titles among the large number of papers that the candidate has published since his PhD is very homogenously oriented to the immunotherapy and receptors expression and modulation in gastrointestinal cancers. The development of the: ***Discussion of the research results consisting the scientific achievement***; is perfectly clear, indicative of an achieved ability to write scientific and didactic papers.

The chapter explains shortly but completely and synthetically the main points that are important to reach the state of the art on the interest of the immunotherapy and why the work was dedicated to : "The aim of conducted studies was to evaluate the effectiveness of selected immunotherapies and targeted therapies in the treatment of gastrointestinal cancers" .

Further developing the logic of the publications on the role of the T-cell mediated anti tumor response: "Th2 cells inhibit growth of colon and pancreas cancers by promoting anti-tumorigenic responses from macrophages and eosinophils" by Jacenic D., Karagiannidis I. and Beswick E.J. published in *British Journal of Cancer* in 2023 (doi: 10.1038/s41416-022-02056-2), linking the molecular mechanisms in the following :

The evaluation of therapeutic potential of MK2 in the immune response mediated by cytotoxic T cells in murine model of gastrointestinal cancers, published as original paper „MK2 drives progression of pancreas and colon cancers by suppressing CD8+ T cell cytotoxic function and is a potential immunotherapy target" by Jacenic D., Lebish E.J. and Beswick E.J. in *Frontiers in Immunology* , 2023 (doi: 10.3389/fimmu.2023.1212100). Completed by the original paper entitled „MK2 promotes the development and progression of pancreatic neuroendocrine tumors mediated by

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Organizational achievements, presentation of teaching activities and achievements in popularization of science

Dr Damian Jacenik, could experience the role of supervising the eight master's students and one bachelor's student.

But more importantly and significant for someone who wishes to get the habilitation, Dr Damian Jacenik is, since 2022, the Assistant Supervisor of Weronika Machelak, M.Sc. from the International Doctoral School of the Medical University of Lodz, Lodz, Poland. Her research aims at assessing the significance of the growth differentiation factor (GDF) 11 during the development of gastrointestinal tract diseases. Her Supervisor is Marta Zielinska, Ph.D., D.Sc.

Moreover, in 2015 – 2017, the candidate was tutor for three students from Serbia, Austria and Switzerland who completed internships at the University of Lodz on behalf of IAESTE (international organization that conducts a foreign internship exchange program for students).

As far as popularization of science it could be achieved by 2015 – 2018, in the project of University of Lodz, Lodz, „The University is always open” , during which the candidate could actively show organizational abilities confirmed by his election as a representative of assistant professors to the Council of the Faculty of Biology and Environmental Protection of the University of Lodz for 2020 – 2024.

Altogether, the candidate to habilitation degree, Dr Damian Jacenik, is a very talented scientist who has shown ability to publish actively, in good level international journals.

Because a very short time has passed since his PhD, the candidate could not demonstrate that he is able to really lead research by being co tutor of a doctoral student. In the present case of co-tutorial activity, the doctoral student has not defended yet her thesis, this is a problem for this reviewer. This condition should really be a basic criterion for habilitation candidature. Indeed, the tutorial work for M Sc. students and diploma, is not comparable.

In this present case the reviewer assumes that the candidate can manage with leading someone's doctoral research as he has a very good record in terms of publications.

The other modulation about the positive evaluation of the career is the lack of real mobility. It is difficult to consider that a one year stay abroad is a real post-doctoral stay, especially because the total career, to date, was done in the same university.

Nevertheless, considering the overall very high scientific activity, the quality of the presented habilitation-selected work, the way it is explained and the clearly high scientific activity and motivation, I have no restriction to support Dr Damian Jacenik candidature for the position and post-doctoral habilitation degree.

In general in the opinion of this reviewer, the scientific and didactic work of Dr Damian Jacenik, is of a high quality, for this reason, it is legitimate to recommend the candidate Dr Damian Jacenik to the Scientific council of the University of Lodz for further processing the Habilitation, consequently:

I hereby confirm that Dr. Damian Jacenik fulfills the requirements for candidates applying for the academic title of doctor habilitated, as specified in Article 219 of the Act of July 20, 2018, Law on Higher Education and Science (Journal of Laws of 2023, item 742).

