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Review (Recenzja) of Doctoral Thesis presented by Mgr. Aleksandra Ewa Bogucka
“Label-free mass spectrometry quantification of proteins linked to the oocyte quality in human follicular fluid: Development of suitable methodology for clinical studies”

Presented work was performed by Mgr. Aleksandra Ewa Bogucka under supervision of Prof. Stanislaw Oldziej from Intercollegiate Faculty of Biotechnology, Gdansk University and Medical University of Gdansk. Considering high challenge of discovering new biomarkers, the candidate undertook ambitious task of refining conditions necessary for proteomic studies that may lead to acceleration of biomarkers for understanding complex biological processes.

Thesis is organized in sections covering abstract, introduction, goals of study, materials and methods, results, and discussion. All supported by extensive literature citations. Overall, presented work is innovative and supported by three first author peer-reviewed publications of the candidate. Some weaknesses are listed below, and this reviewer strongly suggests that they will be addressed in final version of the thesis.

1. Section of “Aim” is underdeveloped, and more precise description of endpoints are not clearly formulated. Therefore, it leaves this report as an open-ended, while deserves to be more conclusive. The candidate is encouraged to expand this section and link it better to conclusions. Overall conclusion stating that *“This analysis might potentially uncover more information..”* is to some extent vague.
2. Section “3.2. Proteomics of hFF” is underdeveloped. This means that Mgr. Bogucka is reporting facts (numbers) and summarize them in Table 1. It is important; however, she falls short in generation questions and direction of experimental improvements as a subject of presented work.
3. High and low values of CV be more precise and provide numeric thresholds.
4. When the applicant is using different name than it is in peer-reviewed publications, it should be noted under listing. Please add appropriate information.

In conclusion, presented thesis meets all formal requirements. Therefore, I propose to Council of the Intercollegiate Faculty of Biotechnology of the University of Gdansk and the Medical University of Gdansk to proceed to further steps towards degree of Doctor of Philosophy (Ph.D.).

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