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UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info/author/UPWr3cd14f07be2d4e8a9fa4d5458e7f5fdd?r=author&tab=&title=Profil%2Bosoby%2B%25E2%2580%2593%2BMaciej%2BJaneczek%2B%25E2%2580%2593%2BUniwersytet%2BPrzyrodniczy%2Bwe%2BWroc%25C5%2582awiu&lang=pl
Researchgate:	https://www.researchgate.net/profile/Maciej-Janeczek
Personal website / Working group website:	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	Opracowanie zindywidualizowanych implantów biodegradowalnych do zabiegów rekonstrukcji kości. Nr projektu: POIR.01.01.01-00-0646/19
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Auxiliary supervisor
Name and surname:	Tomasz Gębarowski
Academic Degree:	dr (Dr.)
Faculty, Institute/Department:	Faculty of Biostructure and Animal physiology
e-mail address:	tomasz.gebarowski@upwr.edu.pl
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UPWr Base of Knowledge - link or most important publications from last 3 year (JCR) / patents from last 3 years (maximum 5):	https://bazawiedzy.upwr.edu.pl/info/author/UPWr34c6d1f9a3964ce1956cde1e9cacb012/
Researchgate:	https://www.researchgate.net/profile/Tomasz-Gebarowski
Personal website / Working group website:	
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. Head of strategic area „Uniwersytet Medyczny we Wrocławiu jako Regionalny Ośrodek Doskonałości w dziedzinie nauk medycznych i nauk o zdrowiu” w ramach Działania Ministerstwa Nauki i Szkolnictwa Wyższego pn. "Regionalna Inicjatywa Działania". Numer zawartej umowy to: 016/RID/2018/19. 2. Vice- head Opracowanie metody pozyskiwania i izolacji mezenchymatycznych komórek zrębu (MSCs) z zębów na potrzeby regeneracji ubytków kostnych w stomatologii.Finansowany ze środków: Europejskiego Funduszu Rozwoju Regionalnego w ramach Programu Inteligentny Rozwój. Projekt realizowany w ramach konkursu Narodowego Centrum Badań i Rozwoju: Dolnośląska strefa technologii biomedycznych
PhD topic:	Effect of vitamin D3 on the differentiation of dog mesenchymal stem cells.
Research discipline in Doctoral School:	Veterinary Science

<p>Short description of the research problem to be solved in the PhD (minimum 1000 characters):</p>	<p>Effect of vitamin D on the differentiation of mesenchymal stem cells isolated from canine adipose tissue.</p> <p>In recent years, mesenchymal stem cells (MSCs) have garnered significant attention in veterinary regenerative medicine due to their ability to differentiate into various cell types and their potential applications in treating a variety of disorders. One of the primary sources of MSCs is adipose tissue, which is considered a promising material due to its accessibility and regenerative properties. However, despite growing interest in the use of MSCs in veterinary medicine, many unknown factors affecting their differentiation and functioning remain.</p> <p>This study focuses on the role of vitamin D in the differentiation process of mesenchymal stem cells isolated from canine adipose tissue. Vitamin D is a well-known regulator of calcium homeostasis and also plays a crucial role in various biological processes, including cellular differentiation. However, its impact on MSCs, particularly those derived from canine adipose tissue, remains poorly understood.</p> <p>The aim of this project is to understand the mechanisms through which vitamin D influences the differentiation of MSCs and to determine the potential clinical applications of this knowledge in veterinary medicine. It is expected that the results of this study will contribute to the development of new treatment strategies using MSCs in treating disorders in dogs, such as tissue damage, joint diseases, and other soft tissue-related conditions. Additionally, this research may provide valuable insights into the general principles of MSC differentiation, which is also relevant in the context of human medicine.</p>
<p>Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):</p>	<p>A PhD candidate embarking on this research should possess a robust set of professional skills, acquired through a master's program or equivalent experience, with a specialization in fields such as cell biology, biochemistry, veterinary medicine, or a related discipline. Proficiency in laboratory techniques, particularly in stem cell culture, adipose tissue handling, and vitamin D analysis, is essential. Experience with analytical techniques such as flow cytometry, PCR, and microscopy for cellular analysis will be highly beneficial.</p> <p>In addition to technical skills, the candidate should be adept in using relevant software for data analysis and visualization, such as SPSS, GraphPad Prism, or R. Familiarity with bioinformatics tools for genomic or proteomic analysis could also be advantageous, depending on the specific focus of the research.</p> <p>Strong communication skills in English, both written and spoken, are crucial for disseminating research findings through scientific papers and presentations. The candidate should also be capable of working collaboratively in a multidisciplinary team, demonstrating strong interpersonal skills.</p> <p>Furthermore, the candidate should exhibit a high level of critical thinking and problem-solving abilities, essential for conducting independent research. Time management and organizational skills are also key, as the candidate will need to efficiently balance lab work, data analysis, and academic responsibilities.</p>
<p>a) Project title:</p>	<p>Effect of vitamin D3 on the differentiation of dog mesenchymal stem cells.</p>
<p>b) Agreement number:</p>	<p>none</p>

c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):	0
Project website:	