University of Gdańsk

Subject card

Subject name and code	Cellular and molecular immunology, PG_00148807		
Field of study	Medical Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	undergraduate studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish Polish
Semester of study	4	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Biochemii Białek i Kwasów Nukleinowych -> Katedra Biochemii Ogólnej i Medycznej -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Dorota Żurawa-Janicka	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	30	3.0	17.0	50

Subject objectives	Understanding the mechanisms of the immune response at the molecular level

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_U06] reads with understanding scientific texts in Polish and simple texts in English in the field of medical biology; independently searches and uses available sources of information, including electronic sources	BM_U06 reads and understands scientific biological texts in the field of immunology in Polish and simple texts in English	[SU1] oral statement/conversation/ discussion
[BIOLMEDL3_U15] learns independently, in a focused manner	BM_U15 learns independently, in a directed way	[SU4] test/exam - oral or written
[BIOLMEDL3_W06] describes, explains and compares systemic control mechanisms in animal and human organisms (including onto- and phylogenetic points of view) and the neurobiological and genetic basis of different disorders	BM_W06 understands the mechanisms leading to the development of specific immunity against bacteria and viruses and the basis of diseases resulting from autoimmunity	[SW4] test/exam - oral or written
[BIOLMEDL3_W03] knows the structure of the animal or human organism, the processes and functional relationships at the cellular, tissue, organ and organismal levels, and explains their relationship to behavior and adaptation of the organism to changing environmental conditions	BM_W03 presents the structure of the elements of the immune system and describes the role of individual elements (genes, proteins, cells) in immune responses	[SW4] test/exam - oral or written
[BIOLMEDL3_K01] understands the need for lifelong learning and to update his/her knowledge of medical biology and related disciplines	BM_K01 knows the limitations of one's own knowledge and understands the need for constant learning and updating knowledge in the field of immunology	[SK1] oral statement/conversation/ discussion

Subject contents

Innate immunity, including: innate response cells and their functions, receptors, complement, mechanisms leading to inflammation and antiviral response. Mechanisms of specific immunity (humoral and cellular) with particular emphasis on events at the molecular level, including: immunoglobulin genes and the production of a wide panel of antibodies belonging to various classes, their structure and function; the role of T cells and mechanisms leading to the production of TCR receptors; interaction of T and B lymphocytes in the process of antibody production; lymphocyte self-tolerance; major histocompatibility complex (MHC), gene structure and the role of MHC I and MHC II proteins. Effector mechanisms of humoral and cellular responses. Autoimmune diseases.

Prerequisites and co-requisites

Completion of courses: Biochemistry, Basics of genetics. Knowledge of the structure and properties of basic types of biological macromolecules, molecular mechanisms of the flow of genetic information and the regulation of its expression.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
final test	51.0%	100.0%

Recommended reading	Basic literature	Literature used during the lecture: Abbas et al. Cellular and Molecular Immunology. 10th Ed. Elsevier Inc. 2022. Male et al. Immunology. 9th Ed. Elsevier Inc. 2020. Murphy & Weaver. Janeway's Immunobiology. 9th Ed. Garland Science. Taylor & Francis Group. 2017. Original ane review articles from scientific journals Literature for self-learning: Abbas et al. Immunologia - funkcje i zaburzenia układu immunologicznego. Red. wyd. pol. J. Żeromski. Edra Urban & Partner, 2015. Gołąb et al. Immunologia. Wydawnictwo Naukowe PWN. 2017. Lydyard et al. Immunologia. Krótkie wykłady. Wydawnictwo Naukowe PWN. 2012.
	Supplementary literature	Review articles on basic immunology from scientific journals
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.