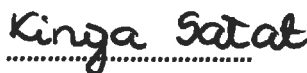


Research Topic Submission Form for the Interdisciplinary Education Programme	
Discipline <i>Please indicate</i>	<input type="checkbox"/> medical sciences <input type="checkbox"/> pharmacology and pharmacy <input type="checkbox"/> health sciences
Submitter - a person willing to act as a supervisor	
Title/degree Full Name	Prof. dr hab. Kinga Sałat
Category <i>please select the relevant category according to the DSMHS Regulations</i>	<input type="checkbox"/> <u>A person employed at the Jagiellonian University Medical College (JU MC), holding a post-doctoral habilitation degree or professor's degree, who has submitted a declaration of at least 75% affiliation with the discipline in which the research topic is being proposed</u> <input type="checkbox"/> A person employed in Poland at a university or another entity listed in Article 7(1) of the Act – Law on Higher Education and Science, who holds the title of professor or a post-doctoral habilitation degree, has submitted a declaration of at least 25% affiliation with the discipline in which the research topic is being proposed, and has presented the written consent of a person meeting the conditions specified in item 1 to assume the role of supervisor, following a positive opinion of the School Board <input type="checkbox"/> A person employed at a foreign university or academic institution, provided that the relevant research discipline board recognises that the person has a significant record of achievement in the academic field to which the research topic pertains
Date of obtaining a) doctoral degree	5.03.2010
b) post-doctoral habilitation degree	24.02.2014
c) professor's degree	25.06.2019
Place of employment	Chair of Pharmacodynamics, Faculty of Pharmacy, Jagiellonian University Medical College, Krakow, Poland
E-mail address	kinga.salat@uj.edu.pl
Contact phone	+ 48-12-62-05-555
Academic achievements: List of max 5 publications from the last three calendar years	1. Knez D, Diez-Iriepea D, Chioua M, Gottinger A, Denic M, Chantegreil F, Nachon F, Brazzolotto X, Skrzypczak-Wiercioch A, Meden A, Pišlar A, Kos J, Žakelj S, Stojan J, Sałat K, Serrano J, Fernández AP, Sánchez-García A, Martínez-Murillo R, Binda C, López-Muñoz F, Gobec S, Marco-Contelles J. 8-Hydroxyquinolynitrones as multifunctional ligands for the therapy of neurodegenerative diseases. Acta Pharm Sin B. 2023 May;13(5):2152-2175. doi: 10.1016/j.apsb.2023.01.013.

	<ol style="list-style-type: none"> 2. Detka J, Płachtij N, Strzelec M, Manik A, Sałat K. p38α Mitogen-Activated Protein Kinase-An Emerging Drug Target for the Treatment of Alzheimer's Disease. <i>Molecules</i>. 2024 Sep 13;29(18):4354. doi: 10.3390/molecules29184354. 3. Malek R, Sałat K, Totoson P, Karcz T, Refouvelet B, Skrzypczak-Wiercioch A, Maj M, Simakov A, Martin H, Siwek A, Szałaj N, Godyrń J, Panek D, Więckowska A, Jozwiak K, Demougeot C, Kieć-Kononowicz K, Chabchoub F, Iriepa I, Marco-Contelles J, Ismaili L. Discovery of New Highly Potent Histamine H₃ Receptor Antagonists, Calcium Channel Blockers, and Acetylcholinesterase Inhibitors. <i>ACS Chem Neurosci</i>. 2024 Sep 18;15(18):3363-3383. doi: 10.1021/acchemneuro.4c00341. 4. Panek D, Pasieka A, Jończyk J, Gawlińska M, Zaręba P, Siwek A, Wolak M, Mordyl B, Głuch-Lutwin M, Latacz G, Brazzolotto X, Chantegreil F, Nachon F, Zdarova Karasova J, Pejchal J, Mzik M, Sestak V, Prchal L, Odvarkova J, Soukup O, Korabecny J, Sorf A, Hamsikova M, Zemanova L, Muckova L, Vánova N, Dryja P, Sałat K, Höfner G, Wanner K, Więckowska A, Malawska B. Multifunctional, Fluorene-Based Modulator of Cholinergic and GABAergic Neurotransmission as a Novel Drug Candidate for Palliative Treatment of Alzheimer's Disease. <i>Angew Chem Int Ed Engl</i>. 2025 Feb 3;64(6):e202420510. doi: 10.1002/anie.202420510. 5. Sałat K, Zaręba P, Awtoniuk M, Sałat R. Naturally Inspired Molecules for Neuropathic Pain Inhibition-Effect of Mirogabalin and Cebranopadol on Mechanical and Thermal Nociceptive Threshold in Mice. <i>Molecules</i>. 2023 Nov 30;28(23):7862. doi: 10.3390/molecules28237862.
Impact Factor summary	381.685
Web of Science Core Collection index	2401
Hirsch index	26
Number of promoted doctoral degree holders	3
Number of promoted MA degree holders	23
Current number of PhD students in the Doctoral School of Medical and Health Sciences	1
Proposed research topic	Study of the effects of anticancer drugs on selected functions of the central nervous system, with emphasis on cognition
Reasons for the compatibility of the proposed research topic with the selected discipline (maximum 100 words)	<p>The proposed research topic is in line with the discipline of pharmaceutical sciences. Pharmacological research will be focused on studying the effects of anticancer drugs on certain functions of the central nervous system. Adverse effects of anticancer drugs are due to their non-selective action on the cells of living organisms. Although rapidly dividing cells (epithelium, gametocytes and immunocytes) are particularly vulnerable to chemotherapy-induced damage, in recent years there has been increasing evidence that these drugs can also damage the central nervous system (CNS). Chemotherapy-induced neuropathy, manifesting as severe and drug-resistant pain results from peripheral neurotoxicity of these drugs. As clinical data show, chemotherapy-treated patients also have long-lasting depressive, anxiety disorders; in these patients symptoms of post-</p>

	<p>traumatic stress disorder and severe cognitive impairments (chemobrain, chemofog; dementia of Alzheimer's type (DAT)) have been described. On the other hand, a paper was published in 2024 describing that certain anticancer drugs (e.g., methotrexate, regorafenib) can reduce cognitive deficits in patients.</p> <p>Thus, data regarding central neurotoxicity of drugs used in cancer therapy are residual and contradictory at this point. The present project aims to determine how these drugs affect cognitive functions in mice.</p>	
Brief description of research methods (max. 250 words)	<p>Accordingly, the research work will aim to: (1) examine the effects of selected anticancer drugs on cognition and other CNS functions (anxiety, stress-related behavior), (2) identify the mechanisms responsible for anticancer drug-induced cognitive deficits, (3) investigate whether available drugs targeting at these mechanisms, as well as procognitive drugs used in the treatment of cognitive disorders, can attenuate DAT, (4) select those cytostatic drugs that could be used in the future in experimental pharmacology as "tools" to induce chemotherapy-induced cognitive impairments <i>in vivo</i>, (5) determine whether the anticancer drugs tested can affect other CNS functions.</p> <p>Research will be conducted in mice with the use of behavioral tests, including those assessing learning and memory in rodents; a part of this project will be carried out on animal tissues (biochemical assays).</p>	
Expected location of project implementation:	Chair of Pharmacodynamics, Faculty of Pharmacy, Jagiellonian University Medical College, Krakow, Poland	
Description of tasks for the PhD student	<ul style="list-style-type: none"> - Participation in the performance of behavioral tests and assays using animal tissues; analysis of the results obtained, dissemination of research results - Review of literature related to the research plan - Development of research methodology based on available sources 	
Expectations towards the PhD student: specific skills and experience <i>(the description of expectations cannot indicate a specific candidate)</i>	<p>Knowledge of pharmacology (graduate scope)</p> <p>Basic experience in performing <i>in vivo</i> research (behavioral testing)</p> <p>Knowledge of basic techniques used in <i>ex vivo</i> studies</p>	
Temporary availability of the PhD student (number of hours per week) required for the implementation of the project	<p><i>If the project requires working non-standard hours (e.g. late afternoons, Saturdays) - please describe here</i></p> <p style="text-align: center;">25 hrs/week</p> <p>Occasionally (1-2 x/3 months) due to the methodology of some tests the need to participate in the study during the weekend (about 5 hrs).</p>	
Does the research project require PhD student's independent performance of medical procedures? <u>Underline the applicable</u>	<u>NO</u>	YES <i>Please specify the required professional licence and provide a brief justification</i>
Date 30.04.2025	 Submitter's signature	

* If the research topic requires the PhD student to independently perform medical procedures, then in accordance with the admission procedures (Annexes 1 and 2 to Resolution No. 14/II/2024 of the Jagiellonian University Senate, dated 28 February 2024), the candidate must hold the appropriate

professional licence. The type of licence (e.g. licence to practise as a doctor, nurse, physiotherapist, etc.) must be clearly indicated and justified. In the DSMHS admission procedure, a licence to practise as a medical doctor or dentist issued for the duration of a postgraduate internship shall be considered equivalent to a full licence to practise as a medical doctor or dentist in the Republic of Poland.

The research topic submitted must not overlap thematically or conceptually with any current project being undertaken by the PhD student under the supervision of the submitter.

The completed form should be printed, signed in the appropriate sections, scanned together with the signed annexed statements into a single PDF file, and submitted electronically **by 30 April 2025** to:

in the discipline of medical sciences: rekrutacja.nmedyczne@cm-uj.krakow.pl

in the discipline of pharmacology and pharmacy: rekrutacja.nfarmaceutyczne@cm-uj.krakow.pl

in the discipline of health sciences: rekrutacja.nozdrowiu@cm-uj.krakow.pl

The email should include **the title of the proposed research topic**.

Declaration of the Person Submitting the Research Topic

I confirm that I am familiar with the rules for admission to the Doctoral School of Medical and Health Sciences at the Jagiellonian University for the academic year 2025/2026 as set out in in Resolution No. 15/II/2025 of the Senate of the Jagiellonian University, dated 26 February 2025.

In particular, I acknowledge that:

If two or more candidates indicate the same research topic in the admission procedure, the research topic will be awarded to the candidate with the highest score. Other candidates will be offered a selection of the remaining research topics not assigned to admitted candidates.

30.04.2025

.....
/date/

Kinga Satat
.....
/signature of the person submitting the research topic/

Declaration of the Person Submitting the Research Topic

I declare that the research topic entitled '**Study of the effects of anticancer drugs on selected functions of the central nervous system, with emphasis on cognition**' conducted by the PhD student of the Doctoral School of Medical and Health Sciences

~~relates to~~/does not relate to* the protected activity, as defined in Article 21 of the Act of 13 May 2016 on Counteracting the Risk of Sexual Offences and the Protection of Minors (Journal of Laws of 2023, item 1304, as amended), involving the upbringing, education, recreation, treatment, provision of psychological counselling, spiritual development, sports, the pursuit of other interests by minors, or their care.

*Delete as appropriate

Kinga Satat

.....
/Signature of the person submitting the research topic/