

Andrzej Kutner

Curriculum Vitae



Personal details

Current occupation: Department of Bioanalysis and Drug Analysis, Faculty of Pharmacy, Medical University of Warsaw, 02-097 Warsaw, 1 Banacha, Poland, research professor,
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Education

1976 M.Sc. in chemistry, with distinction, Chemistry Department, University of Warsaw, "Synthesis and Baeyer-Villiger rearrangement of cholestanones",
supervisor - Prof. Władysław J. Rodewald

1982 Ph.D. in chemical sciences, with distinction, Chemistry Department, University of Warsaw, thesis: "Studies on natural cholanoic acids of therapeutic potential",
supervisor – Dr. Romana Jaworska

1994 D.Sc. (habilitation), Pharmacy Department, Medical Academy of Warsaw (currently: The Medical University of Warsaw), "Studies on active analogs of vitamins D"

2011 professor in pharmaceutical sciences, Pharmacy Department, Medical Academy of Warsaw (currently: Medical University of Warsaw)

Research positions and honours

1976 – 2018 Pharmaceutical Research Institute (PRI), Warsaw, PL,
from research assistant to professor

1984-1986 and 1987 University of Wisconsin-Madison, Department of
Biochemistry, USA, research associate with Prof. Hector F. DeLuca

1990-1997 Head, Contract research and manufacturing with a pharmaceutical company
Solvay B.V., The Netherlands, "Design, synthesis and manufacturing of
vitamin D compounds"

1993 New York University, Department of Chemistry, USA, visiting scientist with

Prof. Stephen R. Wilson

- 1998 Visiting Professor, short visits and lectures in the USA at University of Minnesota, Duluth, Chemistry Dept., with Prof. Ronald Caple; University of California, Riverside, Chemistry Dept., with Prof. William H. Okamura; University of Wisconsin-Madison, Biochemistry Dept, with Prof. H.F. DeLuca
- 1999 Guest Editor, *Current Pharmaceutical Design*, Special Issue "Vitamin D Inhibitors of Cancer Growth"
- 2000-2012 Research Director of PRI, three consecutive terms
- 2006-2018, "Strategies of Pharmaceutical syntheses", monographic course of lectures for M.Sc's students at the Chemistry Department, University of Warsaw
- 2012 - 2015 Chair, Scientific Board, PRI
- 2012 -2014 External Expert to National Science Center, Cracow, PL
- 2012 - 2013 Member, National Committee for evaluation of grant proposals, National Center for Research and Development, Operational Program of Innovative Economy PO IG 2007-2012, Action 1.3.2., patent protection of R&D, the representative of the scientific community, Warsaw, PL
- 2013 - present External Expert, National Center for Research and Development, Warsaw, PL
- 2014 Member of the Panel of Chemical and Pharmaceutical Sciences, World Undergraduate Award, Ireland
- 2016 - present External Expert of the Ministry of Development, Warsaw, PL
- 2018 - present Official representative of the National Center of Research and Development to the Bridge Alfa Program, Life Sciences and RSD Funds and reviewer of multiple R+D Projects, Warsaw, PL
- 2019 - present - the Medical University of Warsaw, Faculty of Pharmacy, Department of Bioanalysis and Drug Analysis, research professor
- Austrian Science Fund (FWF), independent reviewer
 - representative of the National Center of Research and Development to the Investment Committee of the Intelligent Development Operational Program, Action 1.3.1. Bridge Alfa, LSI and RDS Funds; 11 reviews of R&D projects
- 2020- present
- external expert, Intelligent Development Operational Program, Action 3.2.2. „Loan for technological innovations” (Agreement No. 034-01/2020 na lata 2020-2027)
 - representative of National Center of Research and Development to the Investment Committee, Intelligent Development Operational Program, Action 1.3.1., Bridge Alfa (Agreement No. 50/2020/E)
 - member, Project Evaluation Committee, Intelligent Development Operational Program, Action 3.2.2. “Loan for technological innovations” 2014-2020, Call No. 6 and 7
 - Section Editor, „Natural products chemistry”, *Molecules* (MDPI), https://www.mdpi.com/journal/molecules/sectioneditors/natural_products_chemistry
 - Co-Chair, Scientific Committee, Interdisciplinary Conference on Drug Sciences, ACCORD 2022

EU funded grants

2005-2008 FP6-LSH-2004-1.2.1-5 IFESCIHEALTH, Project acronym: EUMAPP, European Union Microdose AMS Partnership Programme, "Microdosing studies to gain enhanced absorption, distribution, metabolism, excretion (ADME) – parameters

for biopharmaceuticals”, Project lead at PRI, grant ID:18672,
<https://cordis.europa.eu/project/rcn/78419/factsheet/en>

2013-2016 FP7-PEOPLE-2012-ITN, Project acronym: DECIDE, “Decision-making within cells and differentiation entity therapies”, Co-chair and WP2 Lead, grant ID: 315902, <https://www.birmingham.ac.uk/generic/decide/partners/index.aspx>

2018-2022 Horizon 2020, MSCA, RISE, Project acronym: ORBIS, “Open Research Biopharmaceutical Internship Support”, Co-chair and WP1 Co-Lead, 2018, grant ID: 778051, <http://www.orbisproject.eu>

National grants

National Centre for Research and Development (NCRD, Warsaw, PL), Project WND-POIG.01.03.01-14-062/09 „Innovative technologies of **cardiovascular** drugs of a special therapeutic and social importance”, Operational Program of Innovative Economy (OPIE 2007-2013 (extended for 2014), Priority 1, Activity 1.3, Support for R&D Projects for entrepreneurs completed by research entities, Sub-activity 1.3.1, set of five projects, lead.

NCRD Project UDA-POIG.01.03.01-14-069/08-00 „Development of innovative technologies of **oncologic** drugs of a special therapeutic and social significance” OPIE, 2007-2013, Priority 1, Activity 1.3, Support for R&D Projects for entrepreneurs completed by research entities, Sub-activity 1.3.1, set of five projects, lead.

NCRD Project UDA-POIG.01.03.01-14-068/08-00 „Development of innovative technologies of **ophthalmic** drugs of a special therapeutic and social significance” OPIE 2007-2013, Priority 1, Activity 1.3, Support for R&D Projects for entrepreneurs made by research entities, Sub-activity 1.3.1, set of five projects, lead.

Project KB/150/12.852/IT1-B/U/08, Technological Initiative of the Ministry of Science and Higher Education, 2009-2013, ”Development of a synthetic technology of the pharmaceutical substance **paricalcitol** and its dosage form used in chronic renal failure of dialyzed patients”, scientific consultant.

Project KB/151/13364/IT1-B/U/08, Technological Initiative of the Ministry of Science and Higher Education, 2008-2012 (extended, 2014), ”Development of a synthetic technology of the pharmaceutical substance **capecitabine** and its dosage form used as an anticancer drug”, lead.

Project BOB-661-324/2021, 2021-2022 "Initiative of Excellence - Research University", Measure VI.1. Warsaw University and Medical University of Warsaw: “Developing structures of novel vitamin D analogs as potential drugs to improve the efficacy of standard therapy for ovarian cancer”.

Research interests

medicinal chemistry, structure-activity relationship, synthetic strategies of pharmaceutical substances, design and synthesis of vitamin A and D anticancer analogs, structure analysis of nuclear receptor ligands

Recent awards

- 2009 Award of the Institute of Physical Chemistry of the Polish Academy of Sciences for the best paper of 2008, S.L. Randzio, A. Kutner, Metastability and instability of organic crystalline substances, *J. Phys. Chem. B*, **112**, 1435-1444 (2008)
- 2011 Team award, Gold Medal, "Innovative manufacturing process of tacalcitol – an active substance of an antipsoriatic drug", 60th Brussels INNOVA, Belgium
- 2012 Team award, Bronze Medal, International Warsaw Invention Show IWIS2012 "A novel convergent synthesis of antiglaucoma PGF_{2α} analogue - travoprost"
- 2016 Team award, Gold Medal, International Warsaw Invention Show IWIS2016 „Prasugrel – innovative technology of a drug product”.
- 2018 Team award, ERiNET Innovatoren Preis 2018, International Trade Fair Ideas Inventions New Products, IENA'2018, Nurnberg, Germany, „Molecularly imprinted polymers employing carbazole and thiophene monomers and their application as recognition layers in chemosensors of aripiprazole and human chorionic gonadotropin"

Recent publications (2019-2022)

1. Magdalena Milczarek, Joanna Rossowska, Joanna Wietrzyk, Martyna Stachowicz, Andrzej Kutner, Dagmara Kłopotowska, Tacalcitol increases the sensitivity of colorectal cancer cells to 5-fluorouracil by downregulating the thymidylate synthase, *J. Steroid Biochem. Mol. Biol.*, (2019), 190, 139-151; IF 3,785, MEN 100 pkt, <http://doi.org/10.1016/j.jsbmb.2019.03.017>.
2. Ewa Maj, Justyna Trynda, Beata Maj, Katarzyna Gębura, Katarzyna Bogunia-Kubik, Michał Chodyński, Andrzej Kutner, Joanna Wietrzyk, Differential response of lung cancer cell lines to vitamin D derivatives depending on EGFR, KRAS, p53 mutation status and VDR polymorphism, *J. Steroid Biochem. Mol. Biol.*, 193 (2019) 105431, <https://doi.org/10.1016/j.jsbmb.2019.105431>, IF 3,785, MEN 100 pkt.
3. Klaudia Berkowska, Aoife Corcoran, Małgorzata Grudzień, Michał Chodyński, Andrzej Kutner and Ewa Marcinkowska. Investigating the role of megalin in semi-selectivity of side-chain modified 19-nor analogs of vitamin D. *Int. J. Mol. Sci.* 2019, 20(17), 4183; <https://doi.org/10.3390/ijms20174183>, IF 4,183, MEN 140 pkt.
4. Magdalena Milczarek, Michał Chodyński, Anita Pietraszek, Kaori Yasuda, Toshiyuki Sakaki, Joanna Wietrzyk, Andrzej Kutner, Synthesis, CYP24A1-dependent metabolism and functional activity of 1,25-dihydroxy-19-nor-20a-homo-ergocalciferols PRI-5105 and PRI-5106, *Int. J. Mol. Sci.* 2020, 21(2), 642; <https://doi.org/10.3390/ijms21020642>, IF 5,924, MEN 140 pkt.
5. Geoffrey Brown, Andrzej Kutner, Ewa Marcinkowska, Vitamin D and haematopoiesis, in Vitamin D in Tissue Microenvironment, Michael Danilenko, Section Editor, *Current Tissue Microenvironment Reports*, 2020, 1, 1-11, nowe czasopismo - brak IF i pkt MEN, <https://doi.org/10.1007/s43152-020-00001-0>.

6. Monika Wanat, Maura Malińska, Andrzej Kutner, Krzysztof Woźniak, Relation between crystal structures of precursors and final products: example of vitamin D intermediates, *Molecules*, 2020, 25(8):1802, 2020, IF 3,060, MEN 100 pkt. <https://dx.doi.org/10.3390%2Fmolecules25081802>.
7. Anna Piotrowska, Justyna Wierzbicka, Kamila Kwiatkowska, Michał Chodyński, Andrzej Kutner, Michał A. Żmijewski, Antiproliferative activity of side-chain truncated vitamin D analogs PRI-1203 and PRI-1204 against human malignant melanoma cell lines, *Eur. J. Pharmacol.* 2020, 881:173170, IF 3,120, MEN 100 pkt., <https://doi.org/10.1016/j.ejphar.2020.173170>.
8. Marianna Gajda, Renata Rybakiewicz, Maciej Cieplak, Teresa Żołek, Dorota Maciejewska, Edyta Gilant, Piotr J. Rudzki, Katarzyna Grab, Andrzej Kutner, Paweł Borowicz, Włodzimierz Kutner, Krzysztof R. Noworyta, Low-oxidation-potential thiophene-carbazole monomers for electro-oxidativemolecular imprinting: Selective chemosensing of aripiprazole, *Biosensors and Bioelectronics*, 2020, 169:112589, <https://doi.org/10.1016/j.bios.2020.112589>, IF 9,520, MNiSW 200 pkt.
9. Jyoti, Gonzato C, Żołek T, Maciejewska D, Kutner A, Merlier F, Haupt K, Sharma PS, Noworyta KR, Kutner W, Molecularly imprinted polymer nanoparticles-based electrochemical chemosensors for selective determination of cilostazol and its pharmacologically active primary metabolite in human plasma. *Biosensors and Bioelectronics*. 2021;193:113542, <https://doi.org/10.1016/j.bios.2021.113542>, IF 9,520, MEN 200 pkt.
10. Filip-Psurska B, Psurski M, Anisiewicz A, Libako P, Zbrojewicz E, Maciejewska M, Chodyński M, Kutner A, Wietrzyk J. Vitamin D Compounds PRI-2191 and PRI-2205 Enhance Anastrozole Activity in Human Breast Cancer Models, *Int J Mol Sci*. 2021, 22(5):2781, <https://doi.org/10.3390/ijms22052781>, IF 5,924, MEN 140 pkt.
11. Jyoti, Renata Rybakiewicz-Sekita, Teresa Żołek, Dorota Maciejewska, Edyta Gilant, Katarzyna Buś-Kwaśnik, Andrzej Kutner, Krzysztof R. Noworyta, Włodzimierz Kutner, Cilostazol-imprinted polymer film-coated electrode as an electrochemical chemosensor for selective determination of cilostazol and its active primary metabolite, *Journal of Materials Chemistry B*, 2022, <https://doi.org/10.1039/d1tb02186a>, IF 6,331, MEN 140 pkt.
12. Karina Piątek, Andrzej Kutner, Dan Cacsire Castillo-Tong, Teresa Manhardt, Nadja Kupper, Urszula Nowak, Michał Chodyński, Ewa Marcinkowska, Enikő Kallay, Martin Schepelmann, Vitamin D Analogs Regulate the Vitamin D System and Proliferation in Ovarian Cancer Cells, *Int. J. Mol. Sci.* 2022, 23, 172. <https://doi.org/10.3390/ijms23010172>, IF 5,924, 140 pkt MEN.
13. Justyna Joanna Gleba, Dagmara Kłopotowska, Joanna Banach, Eliza Turlej, Karolina Anna Mielko, Katarzyna Gębura, Katarzyna Bogunia-Kubik, Andrzej Kutner, Joanna Wietrzyk, Polymorphism of VDR Gene and the Sensitivity of Human Leukemia and Lymphoma Cells to Active Forms of Vitamin D, *Cancers* 2022, 14, 387.

<https://doi.org/10.3390/cancers14020387>, IF 6,639, MEN 140 pkt.

14. Monika Wanat, Maura Malinska, Andrzej Kutner, Krzysztof Woźniak, First experimental quantitative charge density studies of advanced intermediate of vitamin D analogues, *Molecules*, 2022, 27(6), 1757, <https://doi.org/10.3390/molecules27061757>, IF 4,412, 100 pkt MEN, cover page of Issue 6 Vol 27.
15. Jyoti, Teresa Żolek, Dorota Maciejewska, Edyta Gilant, Elzbieta Gniazdowska, Andrzej Kutner, Krzysztof R. Noworyta, and Włodzimierz Kutner. Polytyramine Film-Coated Single-Walled Carbon Nanotube Electrochemical Chemosensor with Molecularly Imprinted Polymer Nanoparticles for Duloxetine-Selective Determination in Human Plasma. *ACS Sensors* 2022, <https://doi.org/10.1021/acssensors.2c00124>, <https://pubs.acs.org/action/showCitFormats?doi=10.1021/acssensors.2c00124&ref=pdf> IF 7,711; MEN 140 pkt, article graphical abstract on the cover page of the journal.
16. Justyna Joanna Gleba, Dagmara Kłopotowska, Joanna Banach, Karolina Anna Mielko, Eliza Turlej, Magdalena Maciejewska, Andrzej Kutner, and Joanna Wietrzyk. Micro-RNAs in Response to Active Forms of Vitamin D₃ in Human Leukemia and Lymphoma Cells. *Int. J. Mol. Sci.* 2022, 23(9), 5019; <https://doi.org/10.3390/ijms23095019>, IF 5,942, MNE 140 pkt.
17. Andrzej Kutner, Geoffrey Brown, Enikoe Kallay, Novel Strategies in the Development of New Therapies, Drug Substances, and Drug Carriers Volume I, , *Int. J. Mol. Sci.* 2022, 23(12), 6635, <https://doi.org/10.3390/ijms23126635>, IF 5,924, 140 pkt MNiSW, Editorial.

Reviewer for scientific journals

Bioorganic Chemistry, Molecules, Pharmaceuticals, International Journal of Molecular Sciences, Journal of Steroid Biochemistry Molecular Biology, Steroids

