

Laboratory of Recombinant Proteins



Head

Joanna Cieśla

Current research

- Studies on thymidylate synthase phosphorylation
- Investigation of protein-protein interactions among enzymes involved in thymidylate synthesis and the co-localization of these enzymes in cancer cells
- Site-directed mutagenesis of thymidylate synthase and purine nucleoside phosphorylase in the studies of inhibition mechanism
- Overproduction of heterologous proteins in bacteria
- Bioproduction of lactic acid in bacteria

Selected publications

Antosiewicz A., Senkara E., Cieśla J., *Quartz Crystal Microbalance with Dissipation and Microscale Thermophoresis as Tools for Investigation of Protein Complex Formation Between Thymidylate Synthesis Cycle Enzymes*, *Biosensors and Bioelectronics*, 64, 36, 2015

Cieśla J., Fraczyk T., Rode W., *Phosphorylation of Basic Amino Acid Residues in Proteins: Important but Easily Missed*, *Acta Biochimica Polonica*, 58, 137, 2011

Cieśla J., Jagielska E., Dąbrowska M., Maley F., Rode W., *Binding and Repression of Translation of the Cognate mRNAs by Rat and Trichinella Spiralis Thymidylate Synthases, Apparently Disconnected Phenomena, Are Not Prevented by dUMP, N⁵,10-Methylenetetrahydrofolate or 5-Fluoro-dUMP*, W: Jansen G, Peters GJ (eds.) *Chemistry and Biology of Pteridines and Foliates*, 91, SPS Verlagsgesellschaft mbH, Heilbronn, 2007

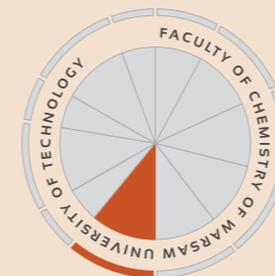
Cieśla J., Fraczyk T., Zieliński Z., Sikora J., Rode W., *Altered Mouse Leukemia L1210 Thymidylate Synthase, Associated with Cell Resistance to 5-Fluoro-dUrd, Is Not Mutated but Rather Reflects Posttranslational Modification*, *Acta Biochimica Polonica*, 53, 189, 2006

Staff

Patrycja Wińska
Anna Kulińska

Current PhD students

Anna Antosiewicz
Elżbieta Senkara
Katarzyna Skierka
Emil Furmanek
Karolina Chreptowicz
Róża Pitruska



Research profile

Protein phosphorylation
Protein-protein interactions
Site-directed mutagenesis
Enzyme kinetics
Overproduction of heterologous proteins in bacterial systems
Lactic acid bioproduction

Collaboration

Department of Biochemistry, Nencki Institute of Experimental Biology, Polish Academy of Sciences (Poland)

Department of Biophysics, University of Warsaw (Poland)

Institute of Biochemistry and Biophysics, Polish Academy of Sciences (Poland)

Research equipment

- 2D Electrophoresis System with Lcool Thermostat, Kucharczyk Techniki Elektroforetyczne
- Refrigerated Centrifuge MPW-351R
- Miniprotean Electrophoresis System, BioRad

Certificates

- Certified Project Management Associate IPMA Level D (Joanna Cieśla)

