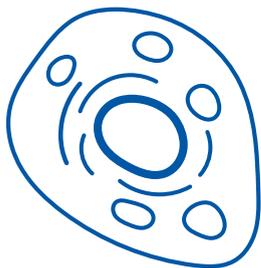


ReMedy

Regenerative Mechanisms for Health

The centre is implementing the Project called „Regenerative Mechanisms for Health”. ReMedy is engaged in comprehensive and complementary research on living organisms. This knowledge will be used to combat diseases in which cellular regenerative pathways are weakened (as in neurodegenerative diseases) or over-strengthened (as in cancer cells).



ReMedy - Regenerative Mechanisms for Health



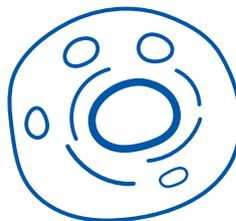
Prof. Agnieszka Chacińska and Prof. Maria Magda Konarska



Stress, cellular adaptations, molecular defence responses, regeneration, pathology, neurodegeneration, cancer



To carry out research to understand the molecular and biochemical mechanisms involved in cellular adaptation to stressful situations, e.g. degradation and cessation of protein production in the cell in response to mitochondrial damage



Cells exposed to severe stress die, while lighter stress triggers adaptive mechanisms that help the cell return to a state of equilibrium. These mechanisms have the potential to treat many of the diseases considered to be lifestyle-related – **Prof. Agnieszka Chacińska.**



Quotes

In order to use the regenerative mechanisms of cells that have survived stress for future therapies, such as neurodegenerative diseases, we must first have a thorough understanding of these mechanisms. In ReMedy, we therefore study what happens in a cell in response to stress, such as the appearance of free radicals, high temperature, mutations or the presence of biologically active chemicals – **Prof. Maria Magda Konarska.**





Prof. Agnieszka Chacińska – Full Professor of Biology and Head of the Laboratory of Mitochondrial Biogenesis at the Center of New Technologies, University of Warsaw. She is the Director of The International Institute of Molecular Mechanisms and Machines, Polish Academy of Sciences (PAS). Her scientific interests focus on mitochondrial biogenesis and its role in health and disease at the cellular level. She completed her biology studies at the University of Warsaw with a specialization in molecular biology. She prepared her doctoral thesis and habilitation at the Institute of Biochemistry and Biophysics of the PAS. She worked, among others, at the University of Basel in Switzerland and the University of Freiburg in Germany. Until 2017, she was associated with the International Institute of Molecular and Cell Biology in Warsaw. Corresponding member of the PAS, laureate of the Prime Minister's Award, the Copernicus Award, the Award of the Minister of Science and Higher Education, the Award of the President of the PAS. Member of EMBO and Academia Europaea.

Prof. Maria Magda Konarska – Associate Professor at the University of Warsaw, since 2015 she heads the RNA Biology Laboratory at the New Technology Center at the University of Warsaw; Deputy Director for Science at the The International Institute of Molecular Mechanisms and Machines, Polish Academy of Sciences (PAS). Professor Emeritus at Rockefeller University in New York, where she headed the Laboratory of Molecular Biology and Biochemistry for 26 years. Her research interests include studies of RNA function in cellular processes, in particular the mechanism of pre-mRNA splicing. Graduated in genetics at the University of Warsaw, then obtained her PhD and postdoctoral degrees at the Institute of Biochemistry and Biophysics of the PAS. She was affiliated i.a., with the Center for Cancer Research at the MIT in Cambridge, USA, and Rockefeller University in New York. Corresponding member of the PAS, winner of numerous national and international fellowships, grants, and scientific awards. Member of EMBO and Academia Europaea.



Interesting facts

Published by Prof. Agnieszka Chacińska's team, the ground-breaking research on the cellular response to mitochondrial defects was conducted on the single-celled yeast *Saccharomyces cerevisiae*. These organisms have served science for decades to study vital processes at the molecular and cellular level. Their culture is not complicated, as they grow rapidly and are estimated to have 23% of the genome identical to humans.

The findings of Prof. Agnieszka Chacińska's team concerning changes in protein production in the cell in response to mitochondrial defects have been published in the most prestigious scientific journals: *Nature*, *PNAS*, *Nature Communications* and *EMBO Molecular Medicine*.



Project partners:

University Medical Center Göttingen (Germany)

CeNT – Centre of New Technologies, University of Warsaw, 2c Banacha St., 02-097 Warsaw.

At the end of 2020, the new International Institute of Molecular Mechanisms and Machines (IMol) of the Polish Academy of Sciences (PAN) was established to become the unit implementing the Remedy project



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