PRESS RELEASE

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The Wistar Institute Announces the Recruitment of Murad Mamedov, Ph.D., to the Center for Advanced Therapeutics

Brings expertise in unique, unconventional T cells to advance new cancer immunotherapies

PHILADELPHIA — (April 1, 2026) —The Wistar Institute, an international biomedical research leader in cancer, immunology, and infectious disease, is pleased to announce the appointment of **Murad Mamedov, Ph.D.**, as assistant professor in Wistar's Center for Advanced Therapeutics. Mamedov is an immunologist studying immune stress sensing and the role of human unconventional T cells called gamma-delta T cells in fighting cancer and other diseases.

"We sit at the intersection of Wistar early-stage science and advancing promising discoveries that could be tapped as future therapeutics, so Murad's gamma-delta T cell knowledge and genome editing toolkit will be crucial for understanding the possibilities of this exciting new area of cancer immunotherapy," said **Paul M. Lieberman, Ph.D.**, director of the Center for Advanced Therapeutics and Hilary Koprowski, M.D., Endowed Professor.

Mamedov's extensive T cell biology experience, particularly his studies of unconventional gamma-delta T cells and how they differ from conventional T cells (including killer CD8 T cells and helper CD4 T cells), is important for our understanding of these immune cells' unique function and crucial to their application in clinical therapeutic settings.

Through the lens of existing targets of gamma-delta T cells, Mamedov wants to understand how the immune system is programmed to recognize cellular stress in cancer cells and other diseased cells under conditions such as lack of nutrients and oxygen, UV radiation, toxin exposure, metabolic aberrations, and viral infection.

Using large-scale, genome editing CRISPR platforms, he also seeks to identify new gamma-delta T cell targets, especially those crucial for the recognition of cancer cells, and *how* these targets are turned on. Using the same CRISPR editing tools, he wants to engineer human gamma-delta T cells for enhanced detection and killing of tumor cells.

Mamedov received his Ph.D. in Dr. Mark Davis' lab at Stanford University. Davis' work is at immunology's forefront—having published seminal papers on T cell biology since the 1980s. This foundation primed Mamedov's deep understanding of immunology and shed light on the importance of gamma-delta T cells

and their unique protective roles in various diseases. The lab studied T cells across a wide spectrum of diseases, giving Mamedov a different vantage point from which to probe and understand T cell biology.

His postdoctoral fellowship took him to Dr. Alex Marson's lab at Gladstone Institutes and the University of California, San Francisco, where he used CRISPR molecular scissors to precisely target and rapidly survey the entire human genome for possible targets of gamma-delta T cells. During this time, Mamedov assembled an international collaborative network and made a major discovery of how cancer cells are recognized by the most abundant type of human gamma-delta T cells.

"In the Davis lab we used T cells as the prism through which we looked at various diseases, covering the whole gamut from cancer and multiple sclerosis all the way to my malaria work. Through a chance discovery in one of my experiments, I found myself in the gamma-delta T cell field and have stayed dedicated to understanding and applying these unique cells in human disease," said Mamedov. "For my postdoc in the Marson lab, I combined my knowledge and passion for these unconventional T cells with CRISPR editing—at the time, a new technology in immunology—and married the two. I set up massively scaled experiments to survey the entire human genome and understand in one experiment what previously would have taken 20,000 experiments. My lab will continue to apply this powerful method to discover T cell targets and how these targets turn on, which we hope will lead to new therapies. I came to Wistar because I felt a strong sense of community and belonging here. Also, the combination of stellar science continuously happening at Wistar for generations, the unique combination of cancer, immunology and infectious disease research, and the opportunities for collaboration within the greater scientific community here in Philadelphia were irresistible."

Mamedov received a B.S. in biology and philosophy from Georgetown University, where he studied hepatitis delta virus in Dr. John Casey's lab. He obtained his Ph.D. in immunology from Stanford University and carried out postdoctoral training at the Gladstone Institutes and the University of California, San Francisco.