The recipient of 24th Vehbi Koç Award is Assoc. Prof. Kıvanç Birsoy, Ph.D.

The recipient of the 2025 Vehbi Koç Award, presented annually by Türkiye's first private foundation, the Vehbi Koç Foundation, in recognition of outstanding contributions in the fields of education, health, and culture, has been announced. This year's award in the field of health was presented to Assoc. Prof. Kıvanç Birsoy, Ph.D. for his groundbreaking research on metabolic pathways involved in cancer development and exploration of potential targets for treatment.

This year's recipient of the Vehbi Koç Award, presented by the Vehbi Koç Foundation annually to honor individuals and institutions that create value in the fields of education, health, and culture and contribute to improving people's quality of life, was announced during a ceremony at Divan Kuruçeşme. Assoc. Prof. Birsoy, who serves as the Head of Laboratory of Metabolic Regulation and Genetics at Rockefeller University and leads a team that also includes researchers from Türkiye, was honored with the 24th Vehbi Koç Award. The Selection Committee, comprising members of the Vehbi Koç Foundation Board of Directors and esteemed academics Prof. Hayrunnisa Bolay Belen, M.D., Ph.D., Prof. Gökhan Hotamışlıgil, M.D., Ph.D., Prof. Tayfun Özçelik, M.D., Ph.D., and Prof. Dr. Murat Akova, M.D., Ph.D., reviewed three exceptional candidates. Ultimately, Assoc. Prof. Kıvanç Birsoy, Ph.D., was selected for his research into the metabolic pathways that play a role in the development of cancer and exploring targets for treatment.

During the award ceremony, hosted by Vehbi Koç Foundation scholar and first-year Mersin Medical Faculty student Damla Yıldırım, Koç Holding Chairman Ömer M. Koç delivered the opening address: "On the 29th anniversary of his passing, we once again remember our founder, the late Vehbi Koç, with deep gratitude and longing. Throughout his life, Vehbi Koç dedicated himself to the ideal of a modern and prosperous Türkiye, guided by the motto: 'I only exist if my country exists. We all exist if democracy exists.' He believed wholeheartedly in the potential of the Turkish people and passionately devoted his life to advancing the country in every aspect. He considered working for a good cause as both a humanitarian and national duty, and in 1969, with his determination, diligence, and visionary outlook, he established Türkiye's first private foundation, the Vehbi Koç Foundation."

Highlighting the foundation's commitment not only to its own initiatives but also to recognizing achievements that foster progress and inspire younger generations, Ömer M. Koç continued: "This is precisely why our foundation honors individuals and institutions that make extraordinary contributions in education, health, or culture each year. This year, the focus of the Vehbi Koç Award is on health. We are witnessing incredible advancements in science and technology, particularly in healthcare. Humanity's quest for a healthier and longer life, combined with groundbreaking progress in biotechnology, genetic engineering, and artificial intelligence, is driving the discovery of innovative treatment methods."

Ömer M. Koç: "A better tomorrow is only possible through science and with qualified, competent individuals."

Emphasizing that despite remarkable advancements in healthcare technologies, cancer remains a significant unresolved challenge worldwide, Ömer M. Koç stated: "Statistics show that one in five people will be diagnosed with this disease at some point in their lives. While this is undoubtedly a concerning outlook, scientific research into cancer treatment continues to give us hope. As in every field, achieving a better future in healthcare depends on the contributions of qualified and competent individuals, and the only path forward is through science. Tonight, we honor a truly exceptional scientist whose pioneering research and discoveries contribute to a healthier future. It is a privilege to present the Vehbi Koç Award to such a deserving recipient."

▶ Koç Holding Chairman Ömer M. Koç

"As in every field, achieving a better future in healthcare depends on the contributions of qualified and competent individuals, and the only path forward is through science."

ASSOC. PROF. KIVANÇ BİRSOY, PH.D. – BIO

Kıvanç Birsoy received his undergraduate degree in Molecular Genetics from Bilkent University in Türkiye in 2004 and his Ph.D. from the Rockefeller University in 2009, where he studied molecular genetics of obesity in the laboratory of Jeffrey Friedman. In 2010, he joined the laboratory of David Sabatini at the Whitehead Institute of Massachusetts Institute of Technology (MIT). In 2015, Dr. Birsoy joined the Rockefeller faculty as an Assistant Professor. He currently serves as the Head of Laboratory of Metabolic Regulation and Genetics as the first and only Turkish faculty member at Rockefeller University, leading a team that also includes some Turkish researchers. Dr. Birsoy has made groundbreaking discoveries to help understand and treat cancer, which is among the most common causes of death worldwide according to World Health Organization data. The results of his research that began with basic scientific studies to understand metabolic changes, which play a critical role in cancer progression, have reached the clinical phase by identifying new treatment targets and created an unparalleled effect profile. Dr. Birsoy, who received the Rockefeller University Distinguished Teaching Award (2019) for his contributions to science education, has been recognized with several prestigious national and international awards for his pioneering research and scientific discoveries. He is a recipient of Sidney Kimmel Cancer Foundation Scholar Award (2016), Searle Scholar Award (2016), Irma Hirschl/ Monique Weill-Caulier Trusts Award (2016), Sabri Ülker Science Award in Metabolism (2016), NIH Director's New Innovator Award (2017), March of Dimes Basil O'Connor Scholar Award (2017), AACR NextGen award for Transformative Cancer Research (2017), Pershing Square Sohn Prize (2018), Pew-Stewart Scholar for Cancer Research (2018), Vilcek Prize for Creative Promise in Biomedical Science (2020), Mark Foundation Emerging Leader Award (2021), ASCB Innovation in Research Award (2021), Blavatnik National Award Finalist in Life Sciences (2023), and Pew Innovation Fund Investigator (2023).

▶ Assoc. Prof. Kıvanç Birsoy

Assoc. Prof. Kıvanç Birsoy, Ph.D.: "The support of the Vehbi Koç Foundation is a powerful source of motivation for scientists."

Award recipient Assoc. Prof. Kıvanç Birsoy, Ph.D., expressed his gratitude and pride in receiving the prestigious Vehbi Koç Award: "The support that the Vehbi Koç Foundation extends to Turkish scientists serves as a tremendous source of motivation for many researchers working abroad, including myself. Receiving an award bearing the name of Vehbi Koç, a visionary leader who spearheaded significant initiatives for the development of our Republic, holds special meaning for me. Since founding the Birsoy Lab in 2015, we have been conducting pioneering research in the biomedical field, focusing on the energy needs and nutrient utilization mechanisms of cancer cells. Our goal is to gain a deep understanding of the role of metabolism in cancer and other diseases and to swiftly translate this knowledge into new treatment strategies. I would like to express my heartfelt gratitude to the Koç Family, the Vehbi Koç Foundation executives, and the selection committee for honoring me with this award."

“Making progress in science requires integrating different perspectives”

This year’s recipient of the Vehbi Koç Award, Assoc. Prof. Kıvanç Birsoy, Ph.D., shared insights into his scientific journey, his groundbreaking research in cancer metabolism, and the vital role of multidisciplinary approaches in advancing scientific progress.

Assoc. Prof. Kıvanç Birsoy, Ph.D., the first and only Turkish faculty member at Rockefeller University and Head of the Laboratory of Metabolic Regulation and Genetics, shares insights into his academic journey and the focus of his pioneering research. Leading a team that includes researchers from Türkiye, Dr. Birsoy discusses the latest developments poised to shape the future of cancer research and offers valuable advice to aspiring geneticists.

What important factors and experiences shaped your scientific career? What influenced your choice of research field?

The most important factor that helped forge my scientific career was the education I received early on. My time at Izmir Science High School, in particular, played a critical role in shaping my scientific thinking. While most of my peers were focused on engineering and medicine, I remained deeply interested in scientific research and participated in the Science Olympiads organized by TÜBİTAK. Even before that, I was always an inquisitive person who loved asking questions, and science felt like a natural path for me for as long as I could remember. My choice to focus on cancer and metabolism stemmed from the significant amount of misinformation surrounding these topics and the fact that nutrition remains one of the least controlled biological variables. Understanding the fundamental biology of cancer and uncovering the role of metabolism in disease processes offered the potential to address a significant gap, both scientifically and translationally.

Your work primarily focuses on cancer metabolism. How do you envision scientific developments in this field shaping future cancer research and treatment approaches?

Advancements in cancer metabolism have the potential to revolutionize future cancer research and treatment approaches. Currently, there is a growing focus on understanding the metabolic adaptations of cancer cells and their interactions with other cells within the tumor microenvironment. Emerging approaches, such as targeting metabolic vulnerabilities and using nutritional interventions, are gaining momentum. Looking ahead, innovations like early cancer detection and personalized metabolic profiling to target specific metabolic dependencies could lead to

more effective treatments. Additionally, research into reprogramming cellular metabolism, influencing immune responses, and metabolically manipulating the tumor microenvironment will likely lay the groundwork for next-generation therapies.

Do you think cancer will become a preventable disease in the future?
The prospect of making cancer a completely preventable disease depends on a combination of environmental factors, genetic predisposition, and advancements in early detection methods. However, given the biological heterogeneity of cancer, it is unlikely that all types of cancer will become fully preventable in the near future. That said, I believe that strategies targeting metabolism will play a crucial role in both delaying cancer development and improving response to treatment.

What evidence does current metabolic research offer regarding the relationship between diet and cancer, and what are the most common misconceptions about this topic?
While the link between nutrition and cancer has been a subject of research for many years, it is important to understand that the human body is equipped with regulatory mechanisms that maintain nutrient levels within a specific range. In other words, avoiding a particular nutrient does not typically lead to a significant drop in its blood levels. For example, cutting sugar from your diet does not drastically reduce blood sugar because the body has robust regulatory mechanisms to maintain balance. However, studies in mouse models have consistently shown that reducing total calorie intake by 30-40% can delay cancer development. Additionally, the established association between obesity and various cancers, such as colon and breast cancer, highlights the impact of metabolic balance and energy metabolism on cancer risk. Therefore, rather than focusing on eliminating specific nutrients, it may be more effective to maintain a healthy body weight, manage insulin resistance, and optimize overall metabolic health as strategies to reduce cancer risk. While future research will continue to explore the complex relationship between nutrition and cancer, current evidence suggests that a holistic approach to lifestyle and metabolic health is more impactful than targeting individual nutrients.

What are your thoughts on the contribution of multidisciplinary approaches to scientific progress and innovation?
Science has evolved beyond the boundaries of individual disciplines, embracing an interdisciplinary structure where diverse specialties converge. This dynamic is strongly reflected in our laboratory, where researchers from different countries and fields collaborate across disciplines such as biochemistry, genetics, computer science, and molecular biology. For example, in our lab, geneticists work side by side with computer engineers, oncologists, and biochemists. This diversity not only drives innovation but also ensures that our research is more comprehensive and impactful. Today, advancing in science requires not only deepening expertise within our own field but also integrating different perspectives. Rather than reinventing the wheel, our focus is on leveraging existing knowledge in the most efficient way to drive new discoveries. This multidisciplinary approach offers significant advantages in both basic science and translational research.

What advice would you give young people who aspire to build a successful and effective career in the world of science?
Science is inherently a challenging field, and without genuine passion, it can become burdensome over time. My advice to aspiring young scientists is to explore topics they are truly interested in and shape their careers around those passions. This approach not only brings long-term success but also ensures a fulfilling professional journey. Moreover, science today is no longer solely about individual work in the laboratory. Social skills, networking, and effectively presenting scientific findings are just as crucial as experimental expertise. The ability to communicate scientific ideas, collaborate with peers, and build strong teams significantly enhances the impact of research. In many ways, science has parallels with success in the business world; it is not only about generating good ideas but also about executing and sharing them with the right audiences to create impact.

You are the recipient of this year's Vehbi Koç Award, presented annually by the Vehbi Koç Foundation to individuals or institutions for their outstanding contributions to the fields of education, health, and culture, respectively. What does this award mean to you?
This award holds immense significance for me. I have known of Vehbi Koç since my childhood, and he remains one of the most influential figures in the history of the Turkish Republic. It is a great honor to receive an award named after such a visionary leader, who spearheaded pioneering initiatives and stood out with his philanthropic efforts during a key moment in Türkiye's development. I am also deeply humbled to join the ranks of the many esteemed professors who have received this award in the past. Being recognized for my scientific work fills me with pride and also motivates me even more for my future research. I am truly honored.