



Sylvester, CFAR and Argentina Centers Awarded NCI Grant for Research and Training

A consortium made up of Sylvester Comprehensive Cancer Center, the University of Miami Center for AIDS Research (CFAR), and scientific institutions in Argentina has been awarded a prestigious National Cancer Institute U54 grant to pursue research in AIDS-related malignancies while developing the careers of a critical mass of junior researchers in Argentina.



From left, Kerry Burnstein, Ph.D., Enrique A. Mesri, Ph.D., Julian Naipauer, Ph.D., and Sion Williams, Ph.D.

“A major goal is building research strength in Argentina by developing the careers of basic, translational and clinical junior investigators,” said Enrique A. Mesri, Ph.D., professor of microbiology and immunology and PI of the consortium. “AIDS malignancy research abroad is a very important scientific and training opportunity.”

Mesri’s longtime relationships with the top scientific



institutions in Argentina were key to the successful application for the U54 grant, which seeks to support interdisciplinary research on HIV-associated malignancies in low- and middle-income countries (LMIC). A central goal is to “enhance research capacity and the ability of partnering LMIC institutions to serve as a regional resource in research, training and career development for new LMIC scientific leaders in HIV and cancer.”

There is a particularly striking need for research into AIDS malignancies in Argentina because two populations are at high risk for Kaposi sarcoma and virally induced cancers: Among men who have sex with men, the HIV infection rate is 12 percent, and among transgender women, HIV prevalence climbs to 35 percent.

Huesped, the main clinical research organization in Argentina that works in AIDS, “really proposed something phenomenal, which was to do a prospective study of these populations and these cancers,” Mesri said. “They have access to these populations, and the community advisory boards, and everything that was necessary to start recruiting men who have sex with men and transgender women to study the onset of these viruses, to study the cancers and start generating clinical material that can be analyzed. The project will also create a network of hospitals that will be able to provide clinical samples from these AIDS malignancies to build a research repository.”

Mesri is the PI for the administrative core, and there are three projects of mentored research as well as an oncogenomics and bioinformatics core, which will leverage and enhance the scientific and clinical capacity of the network. The Miller School of Medicine PI for this core is Sion Williams, Ph.D.,



research assistant professor of neurology and co-director of the Oncogenomics Core Facility at Sylvester.



Juan C. Ramos, M.D., left, and Isabella Rosa-Cunha, M.D.

The research grant will support three projects, the first to define oncogenic signaling networks in AIDS-associated viral cancers as targets of chemoprevention and treatment, with Mesri as co-PI. Project 2 will look at molecular, viral and genetic epidemiology of virally induced AIDS-defining cancers affecting the population in Argentina with the highest risk for HIV infection. Co-PIs on this project from the Miller School are Juan C. Ramos, M.D., associate professor of clinical medicine in hematology and oncology, and Isabella Rosa-Cunha, M.D., associate professor of medicine in the Division of Infectious Diseases. And the third project will study the role of lectin-glycan interactions in virally induced AIDS-associated cancers, with Mesri as the Miller School co-PI.

“The Huesped-based section seeks to create a bio-repository with clinical samples that through the oncogenomic and molecular analyses developed by the consortium will greatly add to our understanding of the biology of these tumors and the viruses that cause them, including how HIV and AIDS



contribute to this process,” said Pedro Cahn, M.D., Ph.D., a consortium co-PI, project leader and director of Huesped, which has been at the forefront of AIDS clinical research since the beginning of the epidemic. “This will pave the way for the development of new therapeutic and diagnostic approaches.”

“We have phenomenal support from the government of Argentina,” Mesri said. “What I think is exciting about this is not only that it’s an example of what can happen when you have all the right pieces in your institution, but how we can exert a cultural change with groups that are at a distance, particularly to instill a culture of mentoring and scientific synergy.”

The Consulate General of Argentina in Miami has supported Mesri’s scientific collaboration activities since 2009. Consul General Martin Giusto said, “The activities of this consortium merit the recognition of Argentina’s government for all the institutions, and particularly for the unconditional support of the University of Miami through its Center for AIDS Research, Sylvester Comprehensive Cancer Center and Department of Microbiology and Immunology.

“We expect that this example of international collaboration will inspire other new experiences and avenues of scientific exchange.”

Sylvester and the CFAR both have a strong infrastructure for training, which will be valuable for the Argentina consortium. Kerry Burnstein, Ph.D., professor of molecular and cellular pharmacology and associate director of education and training at Sylvester, will lead the career development core of the consortium. “One early example of the unique opportunities



that the consortium will provide is that in January all the junior investigators in training will come to UM to attend a mentoring course that is being organized by the Miami CFAR and Sylvester,” Burnstein said.

“Junior trainees will be able to exchange key research resources between the labs in Argentina and in the USA,” said Omar A. Coso, Ph.D., of the University of Buenos Aires and the Institute of Physiology, Molecular Biology and Neurosciences (IFIBYNE-CONICET), a consortium co-PI and project leader. “This, in addition to the creation of a repository of DNA, RNA, proteins and patients’ tissue samples will allow us to translate the molecular research results to the design of prevention, diagnostic and treatment tools to benefit patients.”

Capitalizing on distinctive strengths, such as Sylvester’s Global Oncology and International Programs initiative, is essential to launching and succeeding at a project of this scope.

“This is the type of effort that shows how you can create synergy and value by using elements that are unique to your institution,” Mesri said. “Our global oncology and cancer research programs at Sylvester, our CFAR, our location in Miami – we are at the center of communication with Latin America and now we are a University with a priority to become a hemispheric institution. All this is unique to us and why we are able to put something like this together.”

Gabriel Rabinovich, Ph.D., professor of biological chemistry at the University of Buenos Aires and the leader of the consortium at the Institute of Biology and Experimental Medicine, said, “The greatest strength of our consortium is



that it is composed of groups with different experiences and expertise, ranging from molecular aspects of infection with HIV and the oncogenic virus causing AIDS-associated cancers, to more epidemiological and clinical aspects.

“From the clinical standpoint, the project will seek new therapeutic targets and biomarkers in those patients with AIDS-associated cancers,” Rabinovich added. “It is very important to stress that these are groups of individuals who are socially very vulnerable and therefore it is our social responsibility to seek clinical solutions for these populations.

“For me it is a great honor to take part in this international multidisciplinary team and an exciting challenge to use the tools provided by immune-oncology to successfully treat these patients.”

Mesri emphasizes the importance of the bridge that will be created for enhancing care, improving outcomes, and possibly expanding this model to other medical specialties, and other institutions globally.

“We are facilitating a very unique bilateral collaboration between two countries,” Mesri said. “For other countries of the world and other malignancies, the infrastructure, the model, everything will be in place.”