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UAMS Cancer Researcher Hong-yu Li, Ph.D., Awarded $3.19 Million NCI Grant for Drug Development

LITTLE ROCK — Hong-yu Li, Ph.D., a researcher with the Winthrop P. Rockefeller Cancer Institute at the University of Arkansas for Medical Sciences (UAMS), recently received a five-year, $3.19 million grant from the National Cancer Institute (NCI) to work toward advancing therapeutic treatments for certain types of cancer.

Li is the Helen Adams and Arkansas Research Alliance Endowed Chair in Drug Discovery and a professor in the UAMS College of Pharmacy Department of Pharmaceutical Sciences. He leads the Cancer Therapeutics Research Program at the Cancer Institute.

Li's research focuses on treatment involving cancer of the brain, breast, stomach and intestines, head and neck, and skin as well as leukemia, lymphoma and myeloma. In his research, he designs and synthesizes small molecules through a variety of novel approaches to develop new agents for cancer treatments.

"As the head of our Cancer Therapeutics Research Program, Dr. Li is the Cancer Institute's leader in developing new effective therapeutic agents against cancer," said Michael Birrer, M.D., Ph.D., director of the Winthrop P. Rockefeller Cancer Institute and UAMS vice chancellor. "This great award is an example of his recognition as a world expert in this important area."

The R01 grant supports the study, "Drug Development of Skp2 PROTACs in Cancer," with Li as principal investigator. Li's work targets Skp2 SCF complex E3 ligase, which is a highly validated drug target for cancer. E3 ligases are dedicated to controlling cell development and targeting them helps provide more strategies for cancer treatment.

"Skp2 E3 ligase has a broad implication in cancer, especially for advanced human metastatic cancer," Li said. "With this new funding, we will be able to advance therapeutics to treat advanced cancer."

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Li has been working to enhance molecular cancer treatment therapy by PROTAC technology, a rapidly evolving treatment in clinical trials. PROTACs (Proteolysis Targeting Chimeras) are genetically engineered molecular compounds that bridge cancer-causing proteins with E3-ligase that seek to destroy them.

Li's team discovered a potent PROTAC for Skp2 by improving its therapeutic window more than a hundredfold. Further evaluation and refinement is needed, but Li is optimistic that the resulting clinical candidates will be advanced into Phase 1 clinical trials for treating cancer.

UAMS is the state's only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS' clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. UAMS has 3,240 students, 913 medical residents and fellows, and five dental residents. It is the state's largest public employer with more than 11,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children's, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on Facebook, Twitter, YouTube or Instagram.

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