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PVAMU Scientist Raul Cuero Develops Breakthrough Technology To Prevent Skin Cancer

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PRAIRIE VIEW, Texas--Prairie View A&M University scientist Raul C. Cuero is one step closer to finding a prevention agent for human skin cancer. Cuero, a research scientist in the PVAMU College of Agriculture and Human Sciences, used funding from NASA to develop his breakthrough discovery concerning a natural blocking agent for ultra-violet (UV) radiation to prevent skin cancer. A patent for the invention is pending.

Cuero partnered with David McKay, a NASA scientist to develop the natural compound, which is slated to revolutionize the prevention and treatment of skin cancer.

Produced using grant sources, Cuero's new technology agent is a natural compound extracted from a non-pathogenic microorganism, as compared to many existing compounds currently available, which are synthetic and spur toxic effects to the body. Cuero's method to fight skin cancer and eliminate irradiations is natural, easy to produce and can be extracted at a low cost. Experts in the field explain that it is simple to apply by most people and extremely versatile.

Developed after eight years of research, the new PVAMU discovery is a natural compound extracted from non-pathogenic microorganism that can be used to block ultra-violet radiation. The research conceived by Cuero is unique because it can be used to protect humans against skin cancer, which is often induced by UV radiation and other types of radiations. Currently, Cuero is working with molecular and genetic technology to enhance production of the



microbial UV-blocker in order to find the best method of advancing the technology for commercial use.

Blake Petty with the Texas A&M University Office of Technology Commercialization has been engaged in working with Cuero to develop and market the technology for general use and treatment.

“Dr. Cuero has a long and successful history of commercialization. He is a champion of our efforts to translate academic excellence into marketplace products benefiting the public at large, and we are anxious to assess the commercial potential for his work in UV protection,” states Petty.

In what could possibly mean the end of harmful skin cancer pain suffered by hundreds around the world each year, Cuero’s new inventive technology was developed from a natural molecule with the ability to inhibit and/or screen UV rays. This process will allow the development of pharmaceutical, medicinal and/or other compounds for protection against skin cancer, eye protection and/or physical and biological systems. Additionally, the technology can also be used to enhance the fermentation process. The technology will provide further aid protection for NASA astronauts and other persons from radiation while simulating and performing space trips.

“This new discovery will help researchers and scientists elucidate an important scientific quest on how organisms were able to survive at the beginning of earth, when there was a great UV presence in the earth’s atmosphere. The principal ingredients to this discovery are natural and was discovered using the study of the earth’s biosphere,” advises Cuero, who has been with PVAMU since 1988.

A veteran scientist with several patents and 11 inventions to his credit, Cuero developed the natural blocker against UV and other radiation from ultra violet irradiation to block UV irradiation and other types of irradiations to protect humans against skin cancer induced by UV irradiation and other types of harmful irradiations.

“This discovery is very timely, due to the continued increase of UV radiation and the decrease of green-house protection in our atmosphere. This agent will help fight against harmful radiations produced by UV rays and cancer treatments,” continues Cuero.

Once launched, the technology is intended to serve as an alternative agent to help protect humans against side-effects of irradiation used for cancer treatments. This new agent will also help protect animals exposed to harmful amounts of UV radiation.

For years UV technology has been studied, but PVAMU’s research is slated to provide an innovative and cost-effective protection against UV radiation, directly or through screener devices. Also, the technology will prevent UV damages to surfaces.



Cuero intends that this technology will be useful in protecting astronauts and other persons, as well as space crafts against intensive UV radiation that occurs during space trips. The discovery would be an important technology for carrying out experiments in planets, such as Mars, which has a high UV radiation amount. The technology will also have application aspects in biotechnology and it will enhance the fermentation process in drug industry in production of alcohol and cellulose.

* Photo above: In PVAMU lab, Cuero holds his anti-UV compound. **Photo:** PVAMU Public Relations

Written by: Bryce Hairston Kennard

About Prairie View A&M University

Prairie View A&M University was founded in 1876 and is the second-oldest public institution of higher education in Texas. With an established reputation for producing engineers, business leaders, nurses and educators, PVAMU offers baccalaureate degrees in 42 academic majors, 46 master's degrees and four doctoral degree programs through eight colleges and schools. The university recently named its College of Engineering for PVAMU alumnus Roy G. Perry and the University's marching band, The Marching Storm, was featured as the lead band in the 2009 Rose Parade. A member of The Texas A&M University System, the university is dedicated to fulfilling its land-grant mission of achieving excellence in teaching, research and service. During the university's 132-year history, more than 50,000 academic degrees have been awarded. For more information regarding PVAMU, visit www.pvamu.edu.



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