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### **UTSA, Health Science Center Collaborate with Merck & Co., Inc., to Develop Chlamydia Vaccine**

San Antonio TX -- [The University of Texas at San Antonio](#) (UTSA) and [The University of Texas Health Science Center at San Antonio](#) (Health Science Center) today announced an exclusive license and sponsored research agreement with Merck & Co., Inc., to develop a vaccine for chlamydia, targeting the common sexually transmitted bacterium *Chlamydia trachomatis*.

Under the terms of the agreement with the two [University of Texas institutions](#), Merck will provide funding for research to UTSA and the Health Science Center, whose collaborative team of researchers was the first to demonstrate that, in animal models of genital chlamydial infection, a vaccine composed of a select group of recombinant *C. trachomatis* antigens can successfully accelerate bacterial clearance, and importantly, preserve female reproductive function. Scientists from Merck and UT will collaborate closely in research directed toward development of an effective chlamydia vaccine.

The Merck license is the first revenue-producing license for any technology developed at UTSA. Upon execution of the license, Merck paid the university an upfront fee, and reimbursed UT for past patent expenses. Going forward, the license is structured to provide payments to the university as vaccine candidates advance through development and are commercialized. Specific financial details were not disclosed. The license is also noteworthy because it is the first exclusive license negotiated and executed by [South Texas Technology Management](#) (STTM) for technology shared by two of the four University of Texas System institutions the office serves.

“Inter-institutional partnerships lend themselves to generating interdisciplinary solutions, which in this case is an unmet medical need,” said Kenneth Porter, UTSA/Health Science Center assistant vice president for

technology transfer and director of STTM. “STTM occupies a unique position among UT institutions and can facilitate the activities of such partnerships, especially with respect to providing public access to academic discoveries.”

“Research collaboration between UT institutions and private industry is not only advantageous to improving public health, it is imperative,” UTSA President Ricardo Romo said. “This agreement demonstrates our commitment to build UTSA into a Top 100 research university and the next great Texas university.”

Said Brian Herman, the Health Science Center’s vice president for research: “The Health Science Center strives not only to make discoveries that improve the quality of life but also to make sure these breakthroughs are rapidly disseminated through the commercialization process so they can help as many people as possible. We welcome this opportunity to further advance our already successful relationship with UTSA, and we believe that people, especially those of South Texas, will benefit substantially from this partnership.”



Dr. Guangming Zhong and Dr. Bernard Arulanandam  
Photo: Richard Rodriguez

“External scientific collaborations such as this are an essential and integral aspect of our research strategy,” said John Shiver, vice president and infectious disease franchise head of worldwide basic research, Merck Research Laboratories. “We look forward to working closely to translate the promising early results of the UT team into an investigational candidate that together we can then advance toward the clinic.”

“This is an exciting development in the fight against infectious diseases, highlighting the outstanding research in microbiology and immunology occurring at UTSA and the Health Science Center, and it demonstrates the power of these two sister institutions working together to improve human health,” said Karl Klose, director of

[UTSA's South Texas Center for Emerging Infectious Diseases](#) (STCEID) and professor of microbiology in UTSA's Department of Biology.

*Chlamydia trachomatis* is responsible for nearly 2.3 million cases of infection in the U.S. population, primarily in those between the ages 14 to 39, according to estimates from the Centers for Disease Control and Prevention's U.S. National Health and Nutrition Examination Survey. A highly infectious and insidious organism, *C. trachomatis* frequently causes only mild or moderate symptoms in infected individuals, especially females, and those infected often do not receive diagnosis or effective treatment, because they are not aware they have the infection.

Long-term *C. trachomatis* infection in females can lead to pelvic inflammatory disease, ectopic pregnancy, serious complications for newborn infants and infertility. Macrolide (erythromycin-like) antibiotics can successfully eradicate the pathogen in most patients, but treated individuals are highly susceptible to re-infection if exposed via unprotected sex with an infected partner. Consequently, chlamydia remains present and stable in a high percentage of sexually active individuals.

The trio of UT researchers involved in this collaboration include [Guangming Zhong, M.D., Ph.D.](#), professor of microbiology and immunology from the Health Science Center, [Bernard Arulanandam, Ph.D., M.B.A.](#), professor of microbiology and immunology in UTSA's STCEID and Department of Biology, and Ashlesh Murthy, Ph.D., a research assistant professor in UTSA's STCEID and Department of Biology. Zhong has conducted research for more than 20 years in chlamydia pathogenesis and vaccine development, while Arulanandam has researched vaccine development and mucosal immunity for more than 12 years.

Both Zhong's and Arulanandam's laboratories are working hard with the Merck group to identify the most efficacious vaccine antigens for inducing anti-chlamydial immunity. They are also planning to apply their vaccine research expertise and capabilities to other diseases by collaborating with other UT faculty members.

“Through many years of research in chlamydial biology, pathogenesis and immunology, we have accumulated sufficient expertise to take chlamydia vaccine research to a new level,” Zhong said.

“Chlamydia is the most common sexually transmitted disease caused by a bacterium, and the number of cases is on the rise,” Arulanandam said. “While many researchers have tried to develop a chlamydia vaccine, none has been successful. We hope to change that.”

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### **About South Texas Technology Management (STTM)**

STTM is the regional technology transfer office that serves the needs of the four south Texas UT institutions: The University of Texas Health Science Center at San Antonio, The University of Texas at San Antonio, The University of Texas-Pan American and The University of Texas at Brownsville. STTM served as the sole University of Texas System representative during the 14-month sponsored research Work Plan development and eventual negotiation for the Merck agreements.

### **About The University of Texas at San Antonio**

The University of Texas at San Antonio is one of the fastest growing higher education institutions in Texas and the second largest of nine academic universities and six health institutions in the UT System. As a multicultural institution of access and excellence, UTSA aims to be a premier public research university providing access to educational excellence and preparing citizen leaders for the global environment. UTSA serves more than 28,400 students in 64 bachelor’s, 47 master’s and 21 doctoral degree programs in the colleges of Architecture, Business, Education and Human Development, Engineering, Honors, Liberal and Fine Arts, Public Policy, Sciences and Graduate School. Founded in 1969, UTSA is an intellectual and creative resource center and a socioeconomic development catalyst for Texas and beyond.

### **About The University of Texas Health Science Center at San Antonio**

The University of Texas Health Science Center at San Antonio is the leading research institution in South Texas and one of the major health sciences universities in the world. With an operating budget of \$668 million, the Health Science Center is the chief catalyst for the \$16.3 billion biosciences and health care sector in San Antonio’s economy. The Health Science Center has had an estimated \$36 billion impact on the region since inception and has expanded to six campuses in San Antonio, Laredo, Harlingen and Edinburg. More than 25,600 graduates (physicians, dentists, nurses, scientists and other health professionals) serve in their fields, including many in Texas. Health Science Center faculty are international leaders in cancer, cardiovascular disease, diabetes, aging, stroke prevention, kidney disease, orthopaedics, research imaging, transplant surgery, psychiatry and clinical neurosciences, pain management, genetics, nursing, dentistry and many other fields.

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