

Pure Transplant Solutions Announces Collaboration with the University of Alabama at Birmingham to Develop Memory B Cell-Directed Diagnostics for HLA-Sensitized Patients

AUSTIN, Texas and BIRMINGHAM, Ala., March 11, 2021 (SEND2PRESS NEWSWIRE) – Pure Transplant Solutions, LLC (PTS), a collaboration driven biotechnology company focused on the development of human leukocyte antigen (HLA)-based diagnostics and therapeutics within the field of transplantation, is proud to announce that it has entered into a collaboration agreement with The University of Alabama at Birmingham (UAB), a leading institution in transplant research, to develop a new class of transplant diagnostics aimed at the detection and identification of HLA-specific memory B cells which are poised to produce HLA-specific immunoglobulin injurious to transplanted grafts.



The research is being led by Dr. Frances Lund, Charles H. McCauley Professor and Chair Department of Microbiology, Dr. John Killian, resident in the Department of Surgery, and Dr. Rico Buchli, VP of Products and Services at PTS, and focuses on using PTS's newly created Class I and Class II biotinylated soluble HLA (sHLA) proteins to understand the breadth and specificity of HLA-reactive B cells in sensitized individuals. These proprietary HLA molecules can be utilized in standard flow cytometry workflows for easy processing and analysis that the parties hope will provide a new tool for clinicians and researchers to use when caring for transplant patients.

Almost all previous work on HLA sensitized individuals has relied upon assays that detect circulating anti-HLA antibodies. The goal is to determine the reactivities of HLA-reactive B cells in these sensitized patients and compare these reactivities to those that are present among circulating anti-HLA antibodies. Using panels of biotinylated HLA molecules in combination with various tetramerized fluorescent reagents allows the interrogation of the specific B cell receptors expressed by HLA-reactive B cells.

“Prevention of B cell activation and proliferation is crucial for the survival of a transplant patient. For patient monitoring, identifying the right approach to immune profiling at each stage of clinical development—including the later stages, when it is often considered impractical to include these approaches—may be critical for identifying predictors of rejection responses, or monitoring immunosuppression efficacy”, said Dr. Buchli. “Flow cytometric analysis using our fluorescent tagged HLA products have the capabilities needed to meet the increased demands to detect, identify, and monitor HLA-specific memory B cells.”



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“Our research at the University of Alabama at Birmingham seeks to improve the success of organ transplants,” said John Killian, Jr., M.D., a research resident in the UAB Department of Surgery. “One problem is that following pregnancy or transplant, patients form antibodies against non-self HLA molecules. These antibodies comprise a major barrier to transplantation, and they exacerbate gender and racial disparities for thousands of people who await a life-saving transplant. Thus, we want to understand the breadth and specificity of HLA-reactive memory B cells in sensitized women. Pure Protein’s extensive selection of recombinant HLA molecules will be integral to our projects, allowing us to pair fluorescence-activated cell sorting of HLA-reactive B cells with subsequent analysis of recombinant-antibody specificities. An improved understanding of the phenotype and specificity of HLA-reactive B cells will offer new opportunities to diagnose and treat HLA sensitization.”

About Pure Transplant Solutions, LLC

Pure Transplant Solutions, LLC was founded in 1999 in order to leverage the leading research in HLA protein of parent company, Pure Protein, LLC, into solutions to address a growing list of needs in organ transplantation.

Visit: www.puretransplant.com

About Pure Protein, LLC

Pure Protein, LLC is a biotechnology company funded and managed by Emergent Technologies, Inc. that is focused on the development and commercialization of proprietary technologies related to the human leukocyte antigen (HLA) system, formed and exclusively licensed from the University of Oklahoma. Pure Protein, in conjunction with its affiliates and subsidiaries, aims to bring novel therapies and diagnostic tools to patients across a wide range of application areas spanning from therapeutic development in the fields of oncology, autoimmunity, and infectious disease, to antibody mediated rejection in transplantation.

Through its new ecommerce website, <http://www.hlaprotein.com/>, Pure Protein now offers academic and commercial researchers the ability to purchase individual HLA reagents to detect, profile, and monitor allele-specific immune responses, as well as HLA peptide epitope binding services to aide in improving the design of vaccination and therapeutic targeting strategies.

About the University of Alabama Birmingham

Known for its innovative and interdisciplinary approach to education at both the graduate and undergraduate levels, the University of Alabama at Birmingham, a part of the University of Alabama System, is an internationally renowned research university and academic medical center with over \$600 million in research awards annually, as well as Alabama's largest employer, with some 23,000 employees, and has an annual economic impact exceeding \$7 billion on the state. The pillars of UAB's mission include education, research, innovation and economic development, community engagement, and patient care. Learn more at <https://www.uab.edu/>.

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