Pure Protein Awarded Two-Year \$300,000 OCAST Grant to Develop Smart High-Resolution HLA-Chip for Anti-HLA Antibody Screening and Monitoring

OKLAHOMA CITY, OK– July 17, 2015 – Pure Protein, LLC, a leader in soluble Human Leukocyte Antigen (HLA) reagent production and application development, has been awarded a two-year, \$300,000 matching grant from the Oklahoma Center for the Advancement of Science and Technology (OCAST). The grant will support the development of a multi-analyte assay device to detect the adverse immunological response against either donor or recipient-derived HLA that often occurs in transplant patients. Pure Protein and wholly owned subsidiary, Pure Transplant Solutions, L.L.C. (PTS), joined forces with GMSbiotech, an expert in protein microarray technology and subcontractor on the grant, to create a complete solution for the identification and monitoring of anti-HLA antibodies to help prevent antibody-related injuries and rejection that often occur post-transplant.

In spite of attempted improvements of technologies currently available for matching transplant donors and recipients, there remain a large number of patients in which grafting fails, usually due to rejection caused by circulating antibodies to HLA. This award will be used to address the limitations of existing screening technologies by bringing together the breakthrough technologies of high quality soluble HLA (sHLA) production by Pure Protein and the GMS microarray chip platform technology. The resulting assay approach will resolve several deficiencies present in the bead-based assays currently used in clinical transplant labs by minimizing variability in results, reducing the occurrence of false positives and negatives, decreasing high background levels and enhancing detection specificity. The envisioned assay will provide increased accuracy in determining HLA compatibility, thus facilitating better donor – recipient matching and transplantation outcomes.

By coupling these two complementary platforms, Pure Protein also aims to deliver a low cost microarray-based anti-HLA antibody serum test with specificity and sensitivity that greatly exceeds the industry leading test, launch this "sHLA-Chip" product in the clinical laboratory market, and later submit the sHLA-Chip for FDA review and approval.

"This OCAST grant will be instrumental in achieving our goal of commercializing the sHLA-Chip and providing these devices worldwide to help physicians prevent organ rejection in patients through improved donor-recipient testing and matching," said Rico Buchli, PhD, Director of Research, Pure Protein.

About Pure Protein and Pure Transplant Solutions

Pure Protein L.L.C., and Pure Transplant Solutions, L.L.C., were formed to commercialize

research developed by Dr. William Hildebrand at the University of Oklahoma Health Sciences Center. These companies have developed and patented several soluble HLA protein technology methods and immunology tools for therapeutic and diagnostic applications in solid organ and stem cell transplantation, cross-reactive antibody screening, and major autoimmune diseases. Pure Protein and PTS use HLA protein to develop diagnostics, devices, and therapeutics to help eliminate transplant rejection. To learn more visit: <u>www.pureproteinllc.com</u> and <u>www.puretransplant.com</u>.

Pure Protein and Pure Transplant Solutions are funded and managed by Emergent Technologies, Inc. an innovation solutions and technology commercialization leader headquartered in Austin, Texas. Visit: <u>www.emergenttechnologies.com</u>.

About GMSbiotech

GMSbiotech, Inc. is a privately held company focusing on its patented microarray platform to develop accurate and affordable genetic and serology tests. With the company's disruptive technology in Raw Sample Genotyping (RSG) combined with its microarray platform, complex genetic testing experienced by labs across the field has been substantially simplified into a routine, everyday low-cost component of clinical diagnostics and public health screening. The company is commercializing its technologies with an initial focus on transplantation diagnostics. For more information visit: www.gmsbiotech.com.

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