GMS Biotech and Pure Protein Awarded Two Year \$2,609,551 SBIR Grant to Develop sHLA Chip for Anti-HLA Antibody Screening & Monitoring

Phase II Grant to develop a Donor Specific Antibody (DSA) diagnostic microassay with greater specificity and accuracy for acute and chronic antibody mediated rejection (AMR) of organ transplants

Round Rock, TX and Oklahoma City, OK – April 5, 2016 – The National Institutes of Health (NIH) has issued a Phase II Small Business Innovation Research (SBIR) grant to biopharmaceutical company GMSBiotech, Inc. (GMS)—creator of novel microarraybased diagnostic solutions for personalized medicine, and subcontractor Pure Protein, L.L.C. (Pure Protein)—a leader in soluble Human Leukocyte Antigen (HLA) reagents production and application development, to co-develop and deploy a diagnostic assay for organ transplant patients.

This microarray-based assay will detect antibodies against HLA antigens or DSA in patient serum and to evaluate the efficacy and success of preventing rejections in organ transplantation. The assay is based on a merger of GMS's patent protected novel microarray platform with patented, sHLA proteins manufactured by Pure Protein. This assay approach resolves 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 identifying DSA, improving transplant outcomes and facilitate better donor – recipient matching to reduce the risk of both false positives and false negatives in acute AMR , as well as early detection of DSA post-transplant patients that can cause chronic organ rejection.

"GMSbiotech is looking forward to this partnership with Pure Protein," said Dr. Krishna Jayaraman, GMS Interim CEO and Chairman. "The combination of GMSbiotech's novel Protein Array platform with Pure Protein's unque sHLA proteins will allow for the development of a superior assay that we believe will have significant clinical impact in the transplantation field."

"As proud members of Oklahoma's growing biotech industry, the Pure Protein/Pure Transplant Solutions team is thankful for this award and excited to collaborate with GMS to utilize our nearly two decades of experience working with soluble HLA technology for application and development of a Chip-based antibody screening assay," said Rico Buchli, PhD, Director of Research, Pure Protein. "The final product will fulfill a critical need long sought after by key leaders and clinicians in the transplant community."

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.

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: www.pureproteinllc.com and www.puretransplant.com.

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>.

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