



## **New Bead Array Technology Able to Provide Rapid Comprehensive DNA Typing of Blood Donors**

Study Published in *Transfusion* Finds BeadChip™ Test for Human Erythrocyte Antigen Mutation Screening As Accurate As Current More Labor Intensive Methods

Warren, New Jersey, May 10, 2005/PR Newswire--BioArray Solutions, Ltd today announced the publication of a study, conducted jointly by investigators at New York Blood Center and BioArray Solutions, to evaluate the performance of a new HEA (Human Erythrocyte Antigen) BeadChip Test. Compared to currently available methods, the BeadChip Test, comprising a set of 18 genetic markers, reliably produced results equivalent to those of either serological hemagglutination or manual restriction fragment length polymorphism (RFLP) and allele-specific PCR analysis of individual markers, but in a manner substantially accelerating throughput. Results have been published in the May edition of *Transfusion (Journal of the American Association of Blood Banks)*.

Historically, typing for blood group antigens has been performed by hemagglutination. For blood group antigens other than those in ABO and D (Rh) antigen groups, testing relies on increasingly scarce supplies of costly commercial reagents and on labor intensive methods. In addition, currently available molecular methods have low rates of sample throughput. As a result, the number of donors typed for these “minor blood group” antigens and the supply of antigen-negative red blood cell (RBC) products for patients who have produced a specific “alloantibody” is limited.

The HEA BeadChip Test utilizes a unique randomly encoded microparticle array with probes targeting 17 mutations within human erythrocyte antigens including those in the Duffy, Kell, Kidd, Lutheran, MNS, Dombrock and other blood group systems as well as a mutation associated with sickle cell disease. The assay format employs a single tube multiplex PCR amplification, elongation-mediated multiplex analysis of polymorphisms (eMAP), and automated assay image analysis to generate a complete red cell antigen genotype in less than 5 hours for sets of 8 or sets of 96 samples.

“ We believe that this study has demonstrated the feasibility of using our BeadChip format and automated assay delivery system in a clinical setting to reliably determine the DNA type of large numbers of donors at the rate of throughput required in transfusion medicine”, says Michael Seul, PhD, President of BioArray Solutions, Ltd.

Today most donor centers only screen a selected cohort of donors and maintain a limited inventory. This practice has the potential to introduce delays in treatment, which can create significant additional expense in patient care and may also exacerbate emergency situations. “Microarray technology has the potential to increase the inventory of specific antigen negative blood and permit the creation of diverse inventories of genetically characterized blood units available for delivery. This would be especially useful for chronically transfused patients to reduce and ideally prevent the incidence of alloimmunization to blood group antigens”, says Marion Reid, PhD, Director, Laboratory of Immunohematology, New York Blood Center.

About BioArray Solutions, Ltd.

BioArray Solutions, Ltd. is a molecular diagnostics company engaged in the development and commercialization of a flexible bead array format and automated assay delivery system to deliver proprietary BeadChip assay kits for application in immunohematology, transplantation, genetic testing, and other areas requiring the determination of sets of DNA and protein markers. More information about the Company and its technology can be found on its web site at [www.BioArrayS.com](http://www.BioArrayS.com).

About New York Blood Center

New York Blood Center is the nation's largest non-profit, community-based blood center and has been collecting and providing life-saving blood transfusion products and services for the greater NY/NJ community since 1964. New York Blood Center is also home to the Lindsley F. Kimball Research Institute, a world renowned institution at the forefront of basic and applied hematological research, and the National Cord Blood Program, the world's first and largest public cord blood bank.

More information about New York Blood Center can be found on its web site at [www.nybloodcenter.org](http://www.nybloodcenter.org).

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