

Upcoming Meetings

**AABB Annual Meeting and TXPO 2007**

Anaheim, California, USA  
October 20–23, 2007  
www.aabb.org

**Northeastern Association of Forensic Scientists (NEAFS)**

Bolton Landing, New York, USA  
October 31–November 3, 2007  
www.neafs.org

**Northwest Association of Forensic Scientists (NWAFS)**

Salt Lake City, Utah, USA  
November 5–9, 2007  
www.nwafs.org

**American Academy of Forensic Sciences (AAFS) Annual Meeting**

Washington, D.C., USA  
February 18–23, 2008  
www.aafs.org

Dear Readers,

New methodologies are continuously being developed and applied to each step of the DNA analysis process to improve speed, ease of use and the quality of results. However, staying up-to-date with new technologies can be challenging. In this issue of *Profiles in DNA*, we will learn about new technologies for DNA extraction and quantitation, detection of STR products and data analysis. First, we will hear from the man who helped found the field of DNA typing: Sir Alec Jeffreys. Dr. Jeffreys relates how his discovery of DNA fingerprints has impacted his life and career, and also his vision of how his discovery might be used in the future.

In this issue, we provide specific examples of new technologies that are currently being developed and used in DNA-typing laboratories. The first example is a new DNA quantitation system: the Plexor® HY System. Loretta D'Costa, Jonathan Millman, Melinda Matte, Melanie Richard, Kelly Bowie and Roger Frappier from the Centre of Forensic Sciences describe their experience with this multiplex system to quantitate both total human DNA and Y-chromosomal DNA, allowing them to streamline their decision process, preserve potential evidentiary DNA and help eliminate the need to screen for body fluids. Another example is the use of the Maxwell® LEV System and DNA IQ™ Casework Sample Kit to automate DNA extraction from up to 16 casework samples and concentrate the DNA into small volumes prior to downstream analysis. In addition, Susan Greenspoon, Stephanie Yeung, Jeffrey Ban and Richard Mathies review the current capabilities of microchip capillary electrophoresis and give their thoughts on how these technological advances will change the future of forensic DNA testing.

Also, Rhonda Roby presents the National Institute of Justice's Expert System Testbed Project to evaluate three expert systems using four different chemistry kits on a multicapillary instrument. Finally, Ryan Olson and Cristopher Cowan answer some technical questions about automating the Differex™ System for high-throughput processing of differential extraction samples. The automated Differex™ method incorporates the DNA IQ™ chemistry to achieve separation and allow automation to increase laboratory throughput.



Terri Sundquist  
Editor,  
*Profiles in DNA*

<sup>(a)</sup>This product is sold under licensing arrangements with the USB Corporation for Forensic and Genetic Identity Applications Fields specifically excluding tissue typing related to transplantation or other medical procedures. Further licensing information may be obtained by contacting the USB Corporation, 26111 Miles Road, Cleveland, OH 44128.

<sup>(b)</sup>CAL Fluor® technology is the subject of pending patents and is licensed and sold under agreement with Biosearch Technologies, Inc., for research and development and forensic and paternity testing. These products are sold for use by the end-user only and may not be re-sold, distributed or re-packaged.

<sup>(c)</sup>This product is sold under licensing arrangements with Stratagene for Forensic and Genetic Identity Applications Fields specifically excluding tissue typing related to transplantation or other medical procedures. Further licensing information may be obtained by contacting the Business Development Department, Stratagene California, 11011 North Torrey Pines Road, La Jolla, CA 92037.

<sup>(d)</sup>U.S. Pat. No. 6,242,235, Australian Pat. No. 761757, Canadian Pat. No. 2,335,153 and other patents and patents pending.

<sup>(e)</sup>Patents for the foundational PCR process, European Pat. Nos. 201,184 and 200,362, expired on March 28, 2006. In the U.S., the patents covering the foundational PCR process expired on March 29, 2005.

<sup>(f)</sup>The purchase of this product conveys to the buyer the limited, nonexclusive, nontransferable right (without the right to resell, repackage, or further sublicense) under U.S. Published Patent Appln. 20020150900 and U.S. Pat. Nos. 5,432,272, 6,617,106 and 6,140,496 to use the product. No other license is granted to the buyer whether expressly, by implication, by estoppel or otherwise. In particular, the purchase of this product does not include or carry any right or license to sell this product. For information on purchasing a license for other uses, please contact Promega Corporation, Business Development, 2800 Woods Hollow Road, Madison, WI 53711, or EraGen Biosciences, Corporate Licensing, 918 Deming Way, Suite 201, Madison, WI 53717. Phone (608) 662-9000; Fax (608) 662-9003.

<sup>(g)</sup>Use of this product for basic PCR is outside of any valid US or European patents assigned to Hoffman La-Roche or Applera. This product can be used for basic PCR in research, commercial or diagnostic applications without any license or royalty fees.

<sup>(h)</sup>The purchase of this product does not convey a license to use AmpliTaq Gold® DNA polymerase. You should purchase AmpliTaq Gold® DNA polymerase licensed for the forensic and human identity field directly from your authorized enzyme supplier.

<sup>(i)</sup>STR loci are the subject of U.S. Pat. No. RE 37,984, German Pat. No. DE 38 34 636 C2 and other patents issued to the Max-Planck-Gesellschaft zur Förderung der Wissenschaften, e.V., Germany. The development and use of STR loci are covered by U.S. Pat. No. 5,364,759, Australian Pat. No. 670231 and other pending patents assigned to Baylor College of Medicine, Houston, Texas.

Patents for the foundational PCR process, European Pat. Nos. 201,184 and 200,362, expired on March 28, 2006. In the U.S., the patents covering the foundational PCR process expired on March 29, 2005.

<sup>(j)</sup>U.S. Pat. Nos. 6,027,945, 6,368,800 and 6,673,631, Australian Pat. No. 732756 and other patents and patents pending.

<sup>(k)</sup>Patent Pending.

Products may be covered by pending or issued patents or may have certain limitations. Please visit our Web site for more information.

MagnaBot, Maxwell, Plexor and PowerPlex are registered trademarks of Promega Corporation. Differex, DNA IQ and Slicprep are trademarks of Promega Corporation.

ABI PRISM, AmpFISTR, Avant, Cofiler, GeneMapper and Identifier are registered trademarks of Applied Biosystems Corporation. AmpliTaq Gold and TaqMan are registered trademarks of Roche Molecular Systems, Inc. Biomek is a registered trademark of Beckman Coulter, Inc. BioRobot is a registered trademark of Qiagen GmbH Corp. Charge Switch is a registered trademark of Invitrogen Corporation. Freedom EVO is a registered trademark of Tecan AG Corporation. FSS-i<sup>3</sup> is a trademark of The Secretary of State for the Home Department. iPrep is a trademark of Invitrogen Corporation. Profiler Plus is a trademark of Applied Biosystems Corporation. TrueAllele is a registered trademark of Cybergenetics, Inc. VARIOMAG is a registered trademark of H + P Labortechnik AG Corporation.