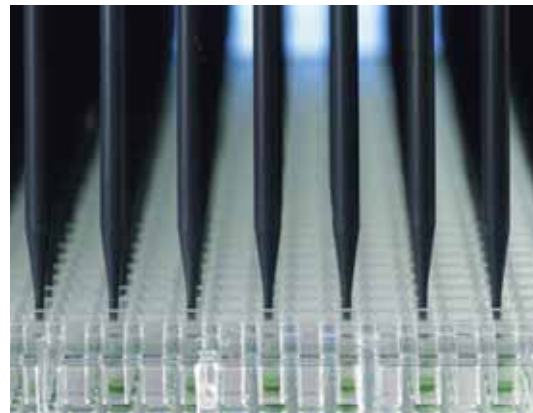




« FlexiTube siRNA from QIAGEN

» High throughput genotyping from Taconic



What's the Difference?

Tools and services to help you differentiate

Although genotyping procedures are performed for many different reasons, the common thread is to make a sure distinction between two sources of DNA. The tools and services below aim to provide you with the information you need to determine genotype.

Taconic announces **high throughput genotyping** for laboratory mice and rats designed to reduce costs and turnaround time. Sample submission and results reporting are accomplished efficiently via a secure online system that provides guaranteed delivery of results in 24 hours. The new genotyping service employs an advanced, real-time PCR platform from ABI, and is almost entirely automated from extraction to real-time PCR. Limited to lab animals like mice and rats, viable specimens include tail tissue, ear punches, embryos and toe nail clippings. The sample collection kit that Taconic provides contains a 96 well plate with cover, shipping label, a card to record details for customer use and a return shipping box. Upon receipt, tissue samples are lysed within the 96 well sample submission plate in order to avoid contamination, and the DNA is extracted and normalized. Normalized DNA is fed into real time PCR machine using Tecan's state-of-the-art liquid handling robots, and tested in duplicate. A house keeping gene is tested along with each sample as a control. Results are also checked twice before they are reported to ensure accuracy. **More information: www.taconic.com**

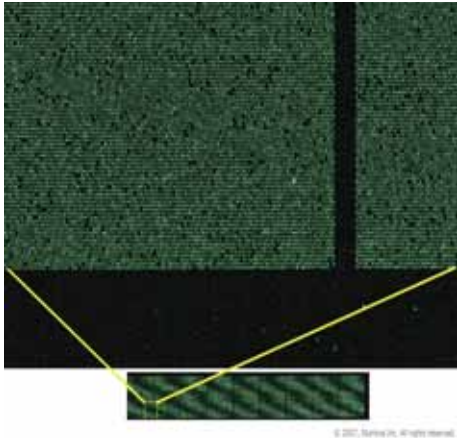
Applied Biosystems introduces new products to enhance a range of PCR applications: the **TaqMan Array Human MicroRNA Panel**, the **TaqMan Gene Expression Master**

Mix, and **TaqMan Genotyping Master Mix reagent kits**. **TaqMan** assays for microRNA (miRNA) analysis are the first of their kind to be configured in an array format. The **TaqMan Array Human MicroRNA Panel** is a molecular tool that can help researchers in pharmaceutical companies and academic institutions to more rapidly and efficiently search for miRNA biomarkers associated with disease and accelerate research related to how microRNAs impact biological processes. Using gold-standard **TaqMan** assay chemistry for quantitative gene expression, the **miRNA TaqMan arrays** offer researchers the accuracy, sensitivity, and reproducibility of real-time PCR using **TaqMan** assays. The **TaqMan Gene Expression Master Mix** and **TaqMan Genotyping Master Mix** reagents have been formulated to provide researchers high-quality data, resulting in a better picture of how nucleic acids (DNA, RNA) impact important biological processes. By matching the right master mix reagent with the kind of application for which the reagent was designed, researchers can boost the performance of either single nucleotide polymorphism (SNP) genotyping or quantitative real-time PCR applications, compared with how these kinds of assays perform with other master mix chemistries. **More information: www.appliedbiosystems.com**

Charles River offers genetic testing ser-

vices with **background strain characterization** of outbred rodent and zebrafish strains in addition to inbred characterization services. Microsatellite-based characterization panels scan the genome at 15 cM intervals and are highly polymorphic between individuals in an outbred population. Each marker is scored by allele, and the overall results can be used for a number of different analyses including determination of allele frequencies, heterozygosity, and likelihood of relatedness. This service is also useful for comparing populations of the same outbred strain that have been maintained separately or determining if an outbred population has become more inbred. In addition to background strain characterization, they offer speed congenics, fine mapping, SNP analysis, PCR, and QPCR for mice, rats, and zebrafish. **More information: www.criver.com**

Integrated DNA Technologies (IDT) offers single and dual-labeled fluorescent DNA probes. IDT's **Express DLP** service delivers dual-labeled probes in just two working days. IDT incorporates locked nucleic acid (LNA) into dual-labeled LNA probes. Since they are shorter than standard DNA dual-labeled probes (DLP), LNA DLPs have better quenching and a higher signal-to-noise ratio. These probes improve the ability to distinguish mutations or single nucleotide polymorphisms (SNPs). "The SNP Genotyping field is



» BeadScan from Illumina

driven by the need for high throughput and low cost while maintaining the highest possible accuracy. Oligonucleotides are a critical component of all genotyping methods; over the past 10 years, oligonucleotide manufacturing capacity has increased >10-fold, price per base has decreased >10-fold, and overall quality has improved." **More information: www.idtdna.com**

Customers who have upgraded to Illumina's new **BeadStudio 3.0 Data Analysis Software** for analyzing genotyping, gene expression, and copy number variation (CNV) analyses, can now take full advantage of additional statistical and advanced algorithms afforded by Connect. Connect, is a bioinformatics software partnership program established to advance data integration and analysis. This program offers Illumina customers seamless access to third-party bioinformatics providers of advanced data analysis applications for processing Illumina array data. **More information: www.illumina.com**

FlexiTube siRNA, from **QIAGEN**, enhances the flexibility of RNAi solutions by providing a cost-effective option for analysis of small numbers of human or mouse genes. FlexiTube siRNAs are provided in economical 1-nmol amounts. At the GeneGlobe Web portal, QIAGEN recommends a gene-specific solution of 4 siRNAs for each target gene. These FlexiTube GeneSolutions enable researchers to follow published guidelines which recommend multiple siRNAs for each target to ensure accurate results. As with FlexiPlate siRNA, which provides cost-effective RNAi screening solutions, FlexiTube siRNA is designed using QIAGEN's innovative HP OnGuard siRNA Design, which

delivers potent and specific siRNA. siRNAs are designed using neural network technology based on a large set of data from siRNA experiments. siRNA design is then checked for homology to all other sequences of the genome using an up-to-date, non-redundant sequence database and a proprietary homology analysis tool. Design features include 3' UTR/seed region analysis, SNP avoidance, and interferon motif avoidance. **More information: www.qiagen.com**

The **EG Human Comprehensive BAC Array Version 2.0**, from **Empire Genomics**, provides a high resolution platform for CGH-based analysis of the entire human genome. Some of the most attractive features include 19,000 RPCI-11 BAC (Bacterial Artificial Chromosome) clones in duplicate, near-tiling resolution through the entire genome, ability to identify over 100 specific congenital syndromes, and over 3,000 BACs associated with cancer, telomeres and common breakpoints. Results are available within 24 hours using standard hybridization procedures including scanners and analysis, and it provides greater signal than oligonucleotide array. This human BAC array is great for quick determination of amplifications, deletions and abnormalities in the genome. The 0.5mb resolution allows for copy number determinations observed most frequently in cancer as well as syndromes associated with aneuploidy (Down Syndrome, Turners syndrome, Trisomy 13, Trisomy 18, etc.). **More information: www.empiregenomics.com**

The **READIT SNP Genotyping System**, from **Promega**, is an accurate, versatile and flexible method for detection of sequence variation/genotype in moderate and high-

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**— Dr. Mark Behlke,
VP Molecular Genetics,
Integrated DNA Technologies**

throughput formats. Validation studies have shown that the READIT System has a genotyping accuracy of 99.9%. The READIT System allows interrogation of PCR products to determine the presence of a known sequence. The system can be used to detect SNPs, estimate allelic frequency, detect chromosomal translocations and perform allele correlation studies. Interrogation probes can be custom designed using web-based probe design software. Customers can synthesize the unmodified PCR-grade probes or purchase them from the oligo supplier of their choice. The assay can be performed in a manual 96-well plate format or an automated 96- or 384-well plate format. **More information: www.promega.com** ■

Companies Mentioned in this Product Spotlight:
Applied Biosystems - www.appliedbiosystems.com
Charles River - www.criver.com
Empire Genomics - www.empiregenomics.com
IDT - www.idtdna.com
Illumina - www.illumina.com
Promega - www.promega.com
QIAGEN - www.qiagen.com
Taconnic - www.taconnic.com

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