

CapitalBio



Our Mission

To lead in the provision of advanced bioscience and healthcare analysis system and products.



Company Profile



Headquartered in Beijing, China, CapitalBio is a leading life science Company that develops and commercializes total health-care solutions including a broad range of innovative biochip related products for genomic and proteomic research, bio-safety testing, clinical applications and to address wider human health needs. CapitalBio warmly encourages discussion of new business, marketing and production opportunities. Both through innovation and a commitment to rapid product development, CapitalBio is seeking to reduce the cost of products, to benefit our customers.

CapitalBio's range of microarray-based biochips include the diagnostic chips for numerous diseases and infections, food safety test chips for antibiotics and food-borne pathogens in farm animals and poultry, and a variety of DNA based whole genome arrays for gene expression profiling and

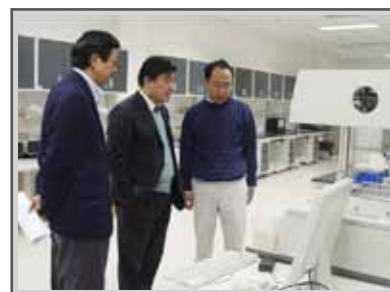
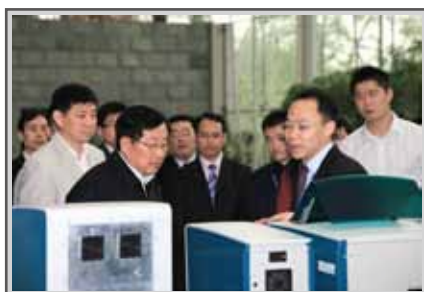
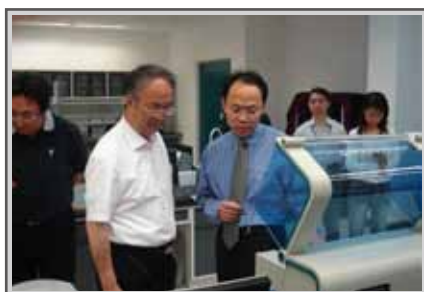


genotyping to elucidate the gene functions in man, animals, plants and lower organisms. Our innovative Human Leukocyte Antigen (HLA) genome typing chip and technology have set new standards for high throughput and accurate HLA typing.

The company's state-of-the-art confocal Laser Microarray Scanner, LuxScan™ 10K has been adopted by customers around the world, including numerous clinical laboratories in Asia, Europe, America and the Middle East. In 2005, CapitalBio was recognized as one of the Red Herring 100 Private Companies of Asia and in 2006, CapitalBio was awarded as First Place of the top “50 Fast-Growing High-Tech Companies of China” by Deloitte.

Visits by Government Officials

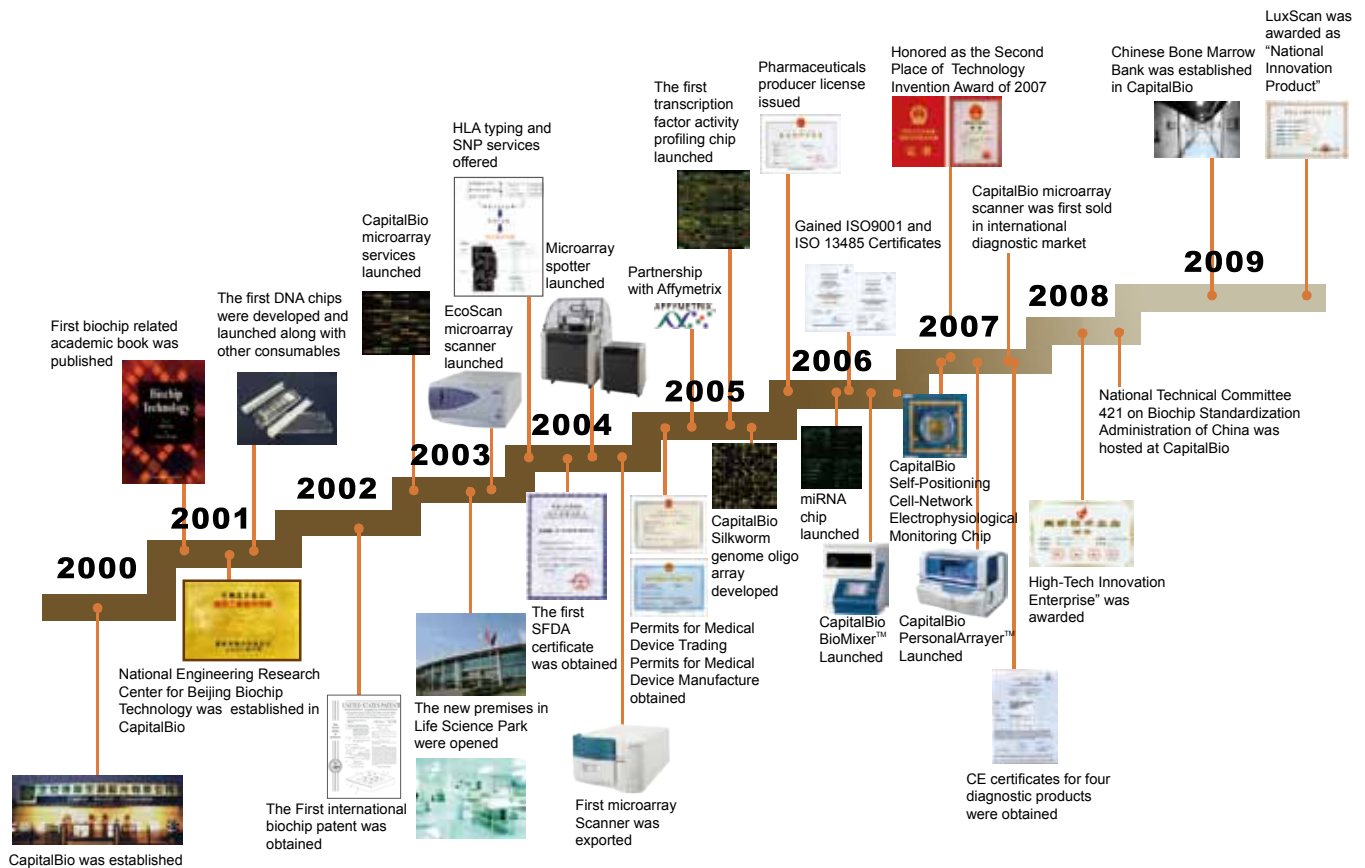
Government officials including President Hu Jintao and Premier Wen Jiabao have visited CapitalBio. CapitalBio has been supported with grants from the National Development and Reform Commission, the Ministry of Science and Beijing Municipality Office.



Company History



On 20th, Feb 2009, Dr. Cheng Jing, CEO of CapitalBio was invited to give a presentation on the development and application of biochips to the State Council.



Certificates and Permits



Registration Certificates for Medical Devices

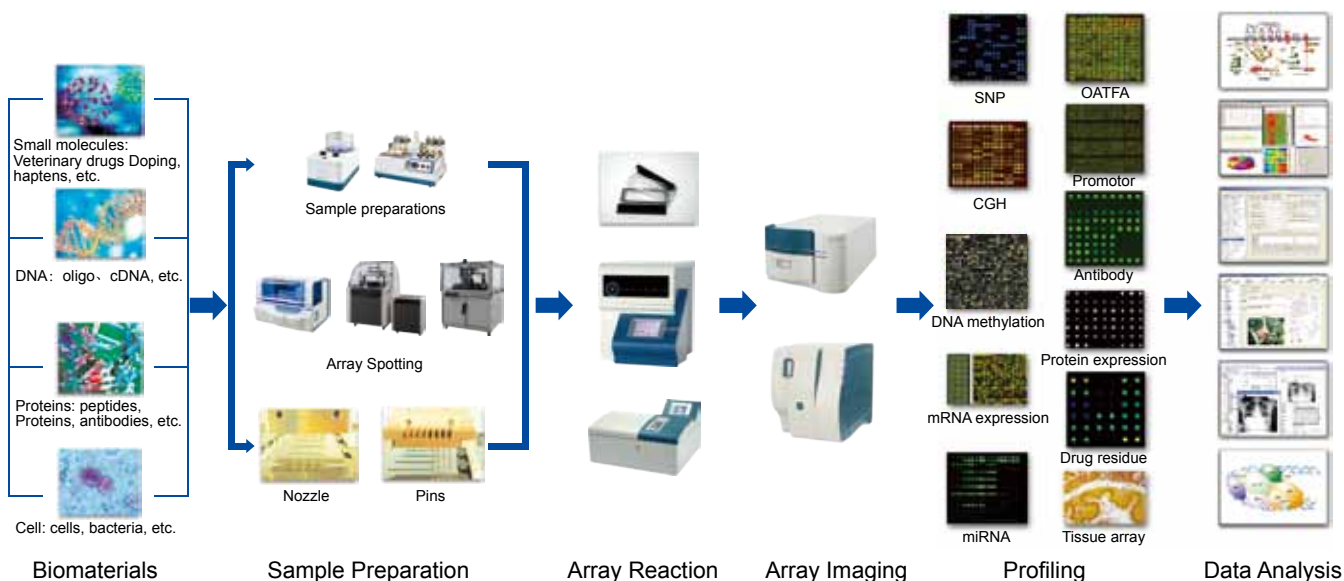


CE Certificates





CapitalBio Microarray Platform



Sample Preparation

- CapitalBio Extractor™ 36 Nucleic Acid Extractor
- CapitalBio EcoSampler™ Analyte Extraction Station
- CapitalBio Universal Kit for Bacterial DNA Extraction

Array Production

- CapitalBio PersonalArrayer™ 16 Microarray Spotter
- CapitalBio SmartArrayer™ 48 Microarray Spotter
- CapitalBio SmartArrayer™ 136 Microarray Spotter
- CapitalBio Microarray Slides
- CapitalBio Microarray Spotting Buffers

Array Reaction

- CapitalBio BioMixer™ II Microarray Hybridization Station
- CapitalBio SlideWasher™ 8 Slide Clean-up Station
- CapitalBio HybSet™ Microarray Hybridization Cassette
- CapitalBio IncuSet™ Protein Chip Incubation Cassette
- CapitalBio SmartGrid™ Multi-Sample Grid & Cover Slip
- CapitalBio Slide Centrifugation Tube

Array Scanning

- CapitalBio LuxScan™ 10K Microarray Scanner
- CapitalBio LuxScan™ HT 24 Microarray Scanner
- CapitalBio CalSlide™ Nano-Fluorescence Calibration Slides

Data Analysis

- CapitalBio SpotData™ Pro V3.0 Microarray Image Analysis Software
- Dedicated analysis and diagnosis software for specific kits and assays
- MicroVigene™ array softwares

Data Management

- CapitalBio Life Science Data Management System V4.0
- CapitalBio Molecular Annotation System V4.0
- CapitalBio Electronic Medical Record V4.0

Full Suite of Microarray Manufacture

CapitalBio has a 24,000m² research and production facility including micro-fabrication of silicon & plastics chips, fully scaled instrument manufacturing facility and GMP microarray manufacturing facilities certified by ISO 9001:2000 and ISO 13485:2003.



Patents and Publications

CapitalBio has gained 82 patents in China and 48 international patents, including U.S, Japan, Europe, Australia, Taiwan and Hong Kong. CapitalBio has also published more than 95 SCI cited papers and 38 papers with IF above 5.

Media Coverage and Awards

“New Chinese Biochip Center Straddles Business, Academe“
...” a new enterprise intended to lead the country into the big leagues of a burgeoning field”

—— **Science**

“Capital Biochip's products have won it respect in the West.”

—— **Nature**

“CapitalBio has built one of the nation’s first world-class biotech firms.”

—— **Fortune**

“..., CapitalBio has done all of its R&D in-house and has come up with products and processes that are both innovative and competitively priced.”

—— **Time**

“CapitalBio won first place of the top 50 fast-growing high-tech companies in the “Deloitte Technology Fast 50 China 2006” ”

—— **Deloitte**



International Collaboration

On April 26, 2005, CapitalBio Corporation entered into a strategic partnership with Affymetrix Corporation, the global gene chip bellwether. The companies agreed to jointly develop an advanced personal gene chip system and provide genomic services in China. The two partners will collaborate to implement international standards in microarray technologies.

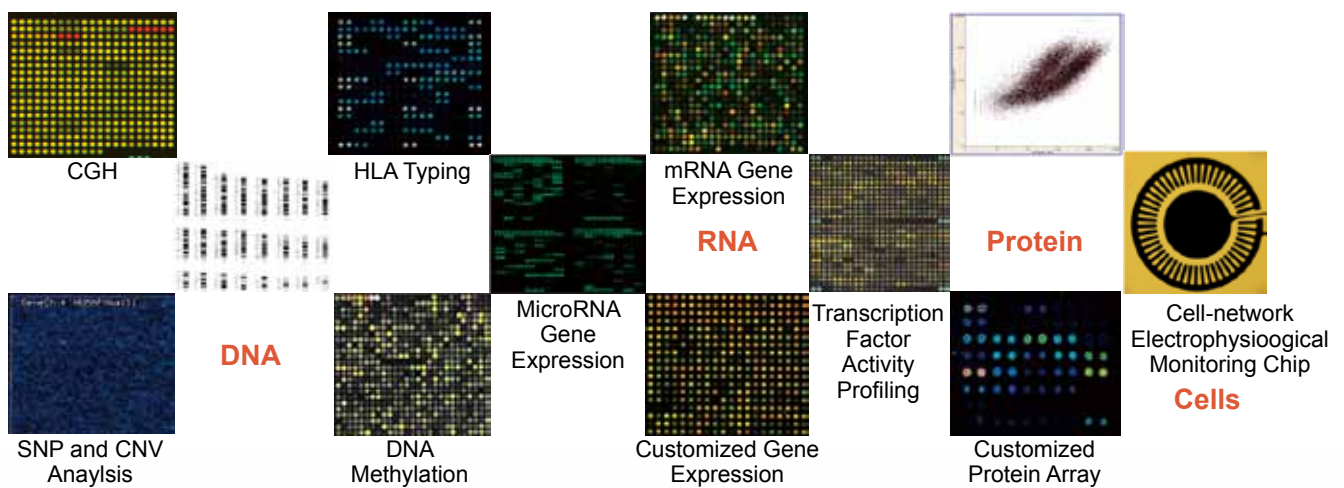
On 5th, Sept, 2008, CapitalBio and Phadia issued a joint statement on the launch of high throughput allergy testing with ImmunoCAP ISAC arrays which are analyzed using the CapitalBio LuxScan dual laser scanner.

On 15th, Oct, 2008, CapitalBio Corporation and VigeneTech Inc which develops image analysis solutions for bioscience research, announced a strategic partnership to create intergrated hardware-software solutions for protein array analysis. The customized OEM software made from VigeneTech is integrated with CapitalBio LuxScan microarray scanners to provide fully integrated and personalized solutions.

CapitalBio has signed partnerships and agreements with a number of companies for distribution and co-development of products and innovations worldwide including Biotools in Spain, Kyonshin in Korea, MicroBioChips in France, Medimiks in Turkey and BN Products in Finland.

Microarray Service

CapitalBio provides a range of microarray services. The exceptional quality of the microarray platform was highlighted in the U.S. FDA sponsored MicroArray Quality Control (MAQC) project (*Nature Biotechnology*, 24(9): 1140-1150, 2006).



Besides its own microarray platform, CapitalBio is a certified service provider for Affymetrix, Roche NimbleGen and Sequenom MassARRAY.

Instruments

CapitalBio SmartArrayer™ 48/136 Microarray Spotter



CapitalBio SmartArrayer™ series is designed for large scale microarray printing of up to 48 or 136 slides, simultaneously. It is equipped with dual systems for contact printing and non-contact dispensing. The multi-purpose microarray spotters print liquid samples on various substrates, such as glass, silicon or membranes, with high precision and maximum flexibility. The instruments are CE certified.

CapitalBio PersonalArrayer™ 16



CapitalBio PersonalArrayer™ 16 is a new highly flexible and efficient microarray spotter. It is equipped with contact printing and proprietary non-contact dispensing technology allowing it to be used for proteomics, genomics, clinical diagnostics and food safety testing applications. Its compact design, flexible functions make it suitable for research labs and diagnostic labs. The instrument is CE certified.

CapitalBio BioMixer™ II Microarray Hybridization Station



CapitalBio BioMixer™ II is a microarray hybridization station that helps the aqueous hybridization mixture spread evenly over the microarray surface through continuous 3-D motion in a temperature adjustable environment. This exposes each sample spot uniformly with the reaction reagent solution, resulting in enhanced reaction signal intensity and signal consistency. The instrument is CE certified.

Instruments

CapitalBio SlideWasher™ 8 Slide Clean-up Station

The CapitalBio SlideWasher™ 8 cleans up DNA and protein microarray slides after labeling reactions and spin dries slides in readiness for scanning. It integrates and automates the simultaneous clean-up of 8 slides, markedly improving the reproducibility of microarray scanning results.



CapitalBio LuxScan™ 10K Microarray Scanner

The CapitalBio LuxScan™ 10K Microarray Scanner is a compact high performance system for microarray imaging and the analysis of DNA, protein and cell arrays. LuxScan™ also comes with new fully integrated MicroVigene™ image processing software from VigeneTech for customized total solutions for DNA and protein arrays. The instrument is CE certified.



CapitalBio LuxScan™ HT 24 Microarray Scanner

The CapitalBio LuxScan™ HT 24 Microarray Scanner is a new generation fully automated microarray scanner providing higher throughput (up to 24 slides) as well as improved spot detection performance and scanning speed. It also comes with new fully integrated MicroVigene™ image processing software from VigeneTech for customized total solutions for DNA and protein arrays. The instrument is CE certified.



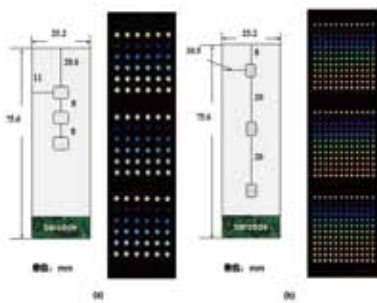
Consumables

CapitalBio Microarray Slides



CapitalBio offers a full set of precisely modified glass slides suitable for both contact and non-contact printing with various nucleic acids and proteins.

CapitalBio CalSlide™ Nano-Fluorescence Calibration Slide



CapitalBio CalSlide™ Nano-Fluorescence calibration slides are novel fluorescence calibration tools based on CapitalBio's proprietary Nanobrite™ technology. They are specifically designed for the daily calibration and maintenance of fluorescence microarray scanners. The anti-photobleaching property of Nanobrite™ guarantees the stability of the fluorescent emission intensity of the calibration spots.

Diagnostic Kits

CapitalBio Antinuclear Antibody Test Array Kit



CapitalBio Antinuclear Antibody Test Array Kit is a protein array-based ANA detection kit that simultaneously tests for 8 different IgG antinuclear antibodies against SSA 52, SSA 60, SSB, Sm, RNP 68, Scl-70, Jo-1 and CENP B in patients' serum. The kit has been approved by the SFDA.

Diagnostic Kits

CapitalBio Mycobacterial Species Identification Array Kit

CapitalBio Mycobacterial Species Identification Array Kit provides a novel method to identify 17 mycobacterial species that are most frequently isolated in clinical laboratories. The array kit is CE certified.

CapitalBio *M.tuberculosis* Drug Resistance Detection Array Kit

CapitalBio *M.tuberculosis* Drug Resistance Detection Array Kit is used for the detection of 14 of the most frequently discovered site mutations in three genes which are strongly implicated in resistance to the two most important (first-line) anti-tuberculosis drugs, rifampicin and isoniazid. The array kit is CE certified.

CapitalBio Deafness Gene Mutation Detection Array Kit

CapitalBio Deafness Gene Mutation Detection Array Kit is designed for the rapid, high throughput screening of known hotspot mutations related to hereditary hearing loss. Nine mutations in four genes (GJB2, GJB3, SLC26A4 and 12S rRNA) are evaluated simultaneously. Knowledge of the mutations can help to identify hearing impairment at birth, to avoid taking certain types of antibiotics which are known to cause deafness in children carrying certain gene mutations.

CapitalBio Tuberculosis and Non-tuberculous Mycobacteria Real-time PCR Detection Kit

It is clinically important to quickly detect and differentiate of NTM infections from TB infection because most of the NTM infections are naturally resistant to many common antibiotics.

The Tuberculosis and Non-tuberculous Mycobacteria Real-time PCR Detection Kit provides a method to discriminate between TB and NTM based on real time multiplex PCR technology. The detection kit is CE certified.

MAQC Assessment of CapitalBio Microarray Platform

NATURE BIOTECHNOLOGY VOLUME 24 NUMBER 9 SEPTEMBER 2006

Performance comparison of one-color and two-color platforms within the MicroArray Quality Control (MAQC) project

Tucker A Patterson, Edward K Lobenhofer, Stephanie B Fulmer-Smentek, Patrick J Collins, Tzu-Ming Chu, Wenjun Bao, Hong Fang, Ernest S Kawasaki, Janet Hager, Irina R Tikhonova, Stephen J Walker, Liang Zhang, Patrick Hurban, Francoise de Longueville, James C Fuscoe, Weida Tong, Leming Shi & Russell D Wolfinger

Microarray-based expression profiling experiments typically use either a one-color or a two-color design to measure mRNA abundance. The validity of each approach has been amply demonstrated. Here we provide a simultaneous comparison of results from one- and two-color labeling designs, using two independent RNA samples from the MicroArray Quality Control (MAQC) project, tested on each of three different microarray platforms. The data were evaluated in terms of reproducibility, specificity, sensitivity and accuracy to determine if the two approaches provide comparable results. For each of the three microarray platforms tested, the results show good agreement with high correlation coefficients and high concordance of differentially expressed gene lists within each platform. Cumulatively, these comparisons indicate that data quality is essentially equivalent between the one- and two-color approaches and strongly suggest that this variable need not be a primary

Platform	Comparison	Average one-color correlation value (s.d.)	Average two-color correlation value (s.d.)
CapitalBio (one site)	Intrasite Within Dye/A	0.959 (0.010)	0.913 (0.073)
	Intrasite Within Dye/B	0.975 (0.006)	0.912 (0.078)
	Intrasite Within Dye Swap (Ratio)	n/a	0.955 (0.038)
	Intrasite Across Dye/A	n/a	0.916 (0.074)
	Intrasite Across Dye/B	n/a	0.918 (0.075)
	Intrasite Across Dye Swap (Ratio)	n/a	0.950 (0.038)

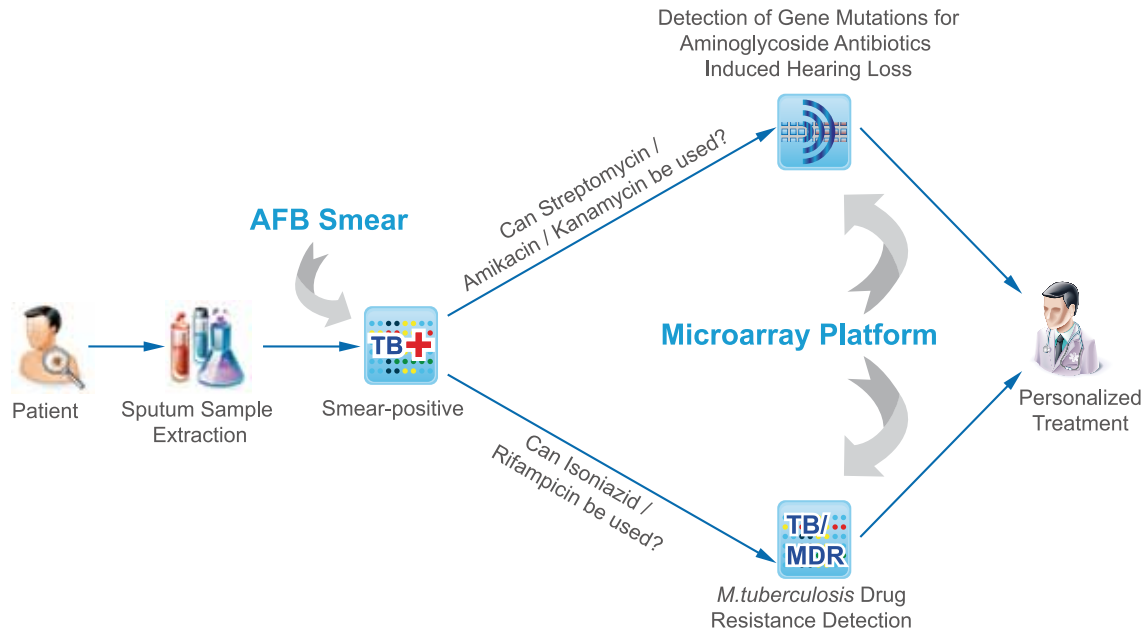
factor in decisions regarding experimental microarray design.

...Most of the average correlations are well above 0.9, indicating high reproducibility...

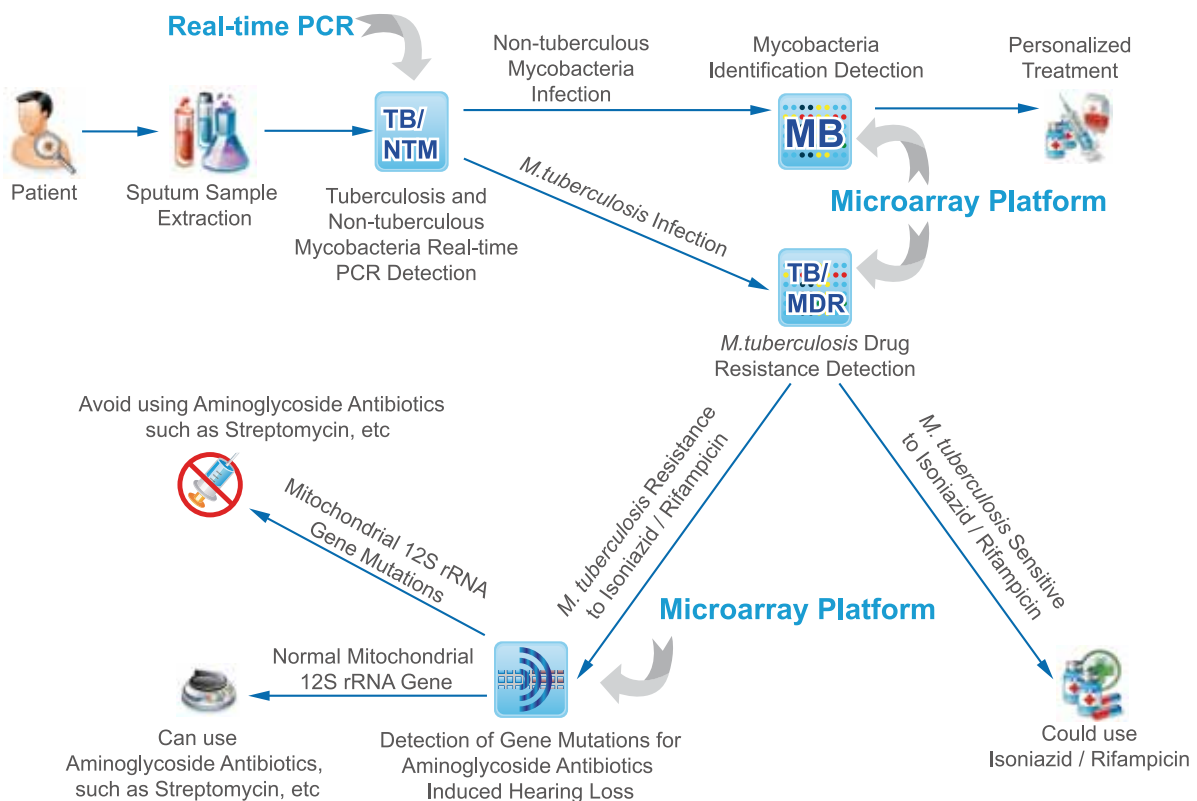
Test site	Fold change	Number of differentially expressed genes			Number of differentially expressed genes		
		$P < 0.05$			$P < 0.01$		
		One color	Two color	Common genes ^a	One color	Two color	Common genes ^a
CapitalBio	FC > 1.5	7,344	6,336	5,129 (75%)	6,238	6,098	4,529 (73%)
	FC > 2	5,383	4,154	3,426 (72%)	5,004	4,078	3,203 (71%)
	FC > 4	2,207	1,599	1,283 (67%)	2,081	1,580	1,187 (65%)

...Concordances of differentially expressed genes are consistently >80% for all three Agilent sites, regardless of the P-value or fold-change criteria used. Similarly, the CapitalBio concordances are consistently ~70%. The TeleChem concordances are less consistent across P values and fold changes and are generally lower than those for the CapitalBio and Agilent data, which is in agreement with the lower overall correlation values for this platform...

Molecular Diagnostic Strategy for Personalized Treatment



Molecular Diagnostic Strategy for Screening & Monitoring



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