



Media Backgrounder – perspective and detail for journalists:

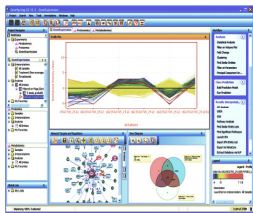
AGILENT TECHNOLOGIES IN THE LIFE SCIENCES



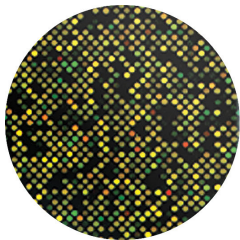
Agilent's Life Sciences Group (LSG) generated \$1.5 billion revenue in fiscal year 2010, about 20% of the company's \$5.5 figure . Agilent's customers range from global pharmaceutical corporations to biotech companies, government labs and academic researchers.

Agilent provides a wide range of tools to explore the mechanisms of disease and health, drug discovery, agriculture, biofuels and toxicology, to name a few disciplines.

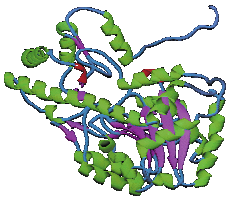
LIFE SCIENCE MARKETS



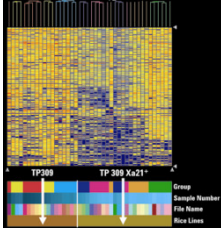
Integrated Biology is study of multiple biological disciplines together to achieve better understanding of how diseases and health work. Disciplines include genomics, proteomics and metabolomics. Agilent makes a wide variety of instrumentation used to perform these types of experiments, including chromatography and mass spectrometry systems, DNA microarrays, sequencing tools, PCR, and reagents. Agilent is also a leading developer of bioinformatics software needed to integrate these complex, different types of data: GeneSpring.



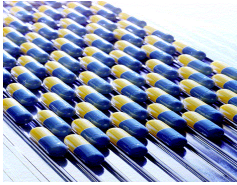
Genomics is the study of all the genes in a tissue sample. Agilent is a leading supplier of microarrays used to study gene expression, copy number variations, changes known as Single Nucleotide Polymorphisms, and gene regulation. Agilent is also a major supplier of tools to streamline DNA sequencing.



Proteomics is the study of all the proteins in a tissue sample, to look for correlations with various disorders. Agilent is a leading provider of liquid chromatography and mass spectrometry systems, software, and consumables for protein identification, characterization and quantification.

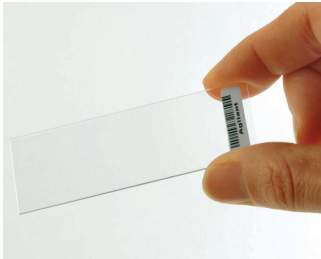


Metabolomics, an emerging field of study of metabolites found in cells. Agilent GC/MS and LC/MS systems and software have become popular in the metabolomics community to detect and measure these very large numbers of compounds and interpret the results. Agilent also offers libraries of metabolite chemical compositions, helping researchers achieve better, faster results.



Pharmaceuticals. Agilent instruments and software are used throughout the pharmaceutical value chain: from drug discovery research through quality control/quality assurance of drug manufacturing raw materials, in-process products and finished products. Chromatography and mass spectrometry systems, and nuclear magnetic resonance spectrometers are popular instruments in pharma labs. Agilent is the world's top provider of compliance services in regulated laboratory environments.

LIFE SCIENCE PRODUCTS



Microarrays are 1" x 3" glass slides printed with up to one million DNA or RNA probes, used to measure gene activity or number. . Agilent is a leading vendor of microarrays used to study gene expression (which genes are active), errors in DNA copies such as gene duplications or deletions, and chemical reactions that regulate gene activity . Agilent's proprietary SurePrint "ink-jet" fabrication platform manufactures custom as well as catalog microarrays. Agilent's eArray online microarray design tool lets customers easily design their own custom experiments.



Target Enrichment. Agilent is a leader in the dynamic market for target enrichment tools for the next generation DNA sequencing. The Agilent SureSelect Target Enrichment System leverages the company's extensive oligonucleotide synthesis experience to create powerful tools for focusing sequencing experiments on genomic regions of interest. This greatly reducing costs, time and labor, even making some studies feasible for the first time. SureSelect has been cited in more than 160 major published studies since its introduction in 2009, and the total continues to grow.



Liquid chromatography (LC) is a method of separating and collecting compounds within a liquid sample so they can be identified and quantified. The method is one of the most important tools for the life sciences because of its ability to analyze large, fragile biomolecules such as proteins, as well as chemical analysis.



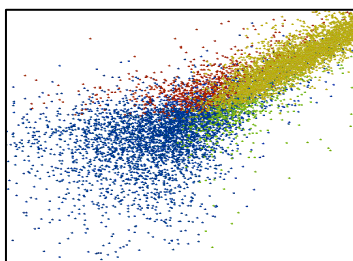
Liquid Chromatography/Mass Spectrometry (LC/MS) is an analytical technique used to identify and quantify the compounds in a sample by determining the molecular weight of intact molecules and their fragments. LC/MS is an integral part drug development and disease research. The Agilent 6000 Series LC/MS product line includes the 6100 Single Quadrupole, the 6400 Triple Quadrupole, the 6200 Time-of-Flight (TOF) and the 6500 Quadrupole Time-of-Flight (Q-TOF) product families. Recent high end Triple Quad (6490) and Q-TOF (6550) systems incorporate revolutionary iFunnel technology to achieve unprecedented sensitivity. MassHunter software enables method set up, data acquisition, and processing in a single, intuitive package.



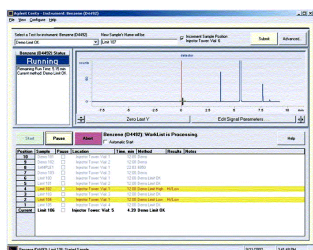
Gas Chromatography/Mass Spectrometry (GC/MS) traditionally used in analytical chemistry applications such as food safety testing and environmental analysis, is assuming a growing role in the emerging field of metabolomics (the study of all the metabolites in a biological sample – a promising source of biomarkers for many widespread illnesses). In GC, the sample is vaporized and separated into its individual components, and molecular weights are determined by the MS. Agilent is the global leader in GC and GC/MS by a wide margin.



Electrophoresis. Agilent was the first company to commercialize a lab-on-chip system, the Agilent 2100 Bioanalyzer and is the category's clear leader. Microfluidics technology enables the separation of minute amounts of DNA and RNA proteins. The Bioanalyzer has flow cytometry applications and is the industry standard for RNA QA/QC and Nucleic Acid QC in Next Generation Sequencing. The system is also used to screen for genetically modified food. Agilent also offers high throughput and ease of use with the TapeStation automated electrophoresis system and ready-to-use ScreenTape consumables. Agilent's also offers the G7100 Capillary Electrophoresis system which is extremely versatile in nucleic acid and protein separations.



Bioinformatics enables scientists to interpret complex biological data. Agilent's suite of bioinformatics solutions includes the gold standard GeneSpring platform, which spans applications in gene expression, genotyping, copy number variations, metabolomics and proteomics.



Lab Informatics. Agilent's software portfolio supports the diverse needs of laboratories in the generation, collection, archiving, and reporting of laboratory data. The Agilent OpenLAB family encompasses instrument control and data systems, electronic lab notebook, and enterprise content management for organizations ranging from a single lab through a far-flung global enterprise.



Reagents and PCR systems are a vital part of the life scientist's work, and Agilent's PCR and Reagents group offers a wide range of reagents for mutagenesis, cloning, competent cells and sample preparation. Agilent's quantitative PCR products include robust multiplex cycling and industry-leading data analysis software across multiple applications and probe chemistries optimized for use with Agilent's Brilliant QPCR reagents. Agilent developed the SureCycler 8800. Leveraging Agilent's high-performance LC/MS instrumentation, expertise in polymerase enzyme engineering, and PCR instrumentation, the MassCode PCR platform enables high-throughput reactions of up to 30 target nucleic acid sequences simultaneously.

Magnetic Resonance

Nuclear magnetic resonance (NMR) spectroscopy has a variety of scientific applications in analytical chemistry and biological research. NMR is a non-destructive technology that involves little or no sample preparation. Samples can be pure substances, complex mixtures, solids, liquids and tissue. Unlike many other technologies NMR functions well with chemical (small molecule) samples and biological (large molecule) samples. NMR is highly complementary to mass spectrometry (another Agilent core product family) and many labs employ both techniques. Agilent offers a full complement of NMR products for research and industrial applications.



Pre-clinical Magnetic Resonance Imaging

Magnetic resonance imaging (MRI) is a non-invasive technique used to visualize living or inanimate objects based on the resonance frequencies of nuclei in the sample. Differences in chemical composition allow imaging of internal structures, tissues and pathologies. Some key applications include early assessment of diseases, modeling disease progression, monitoring drug efficacies and probing brain function. Agilent offers a full assortment of MRI products suiting the advancing requirements of biological, pre-clinical and clinical research.



X-ray Crystallography

Agilent specializes in Single Crystal X-ray Diffraction (SC-XRD) during which an X-ray beam is directed at a crystal. From the positions and intensities of the diffracted beams the molecular structure is determined. SC-XRD can be applied to proteins enabling researchers to generate accurate models and design specially targeted drugs. The Agilent SuperNova and PX Scanner offer all of the crystal screening and structure determination tools required for the modern structural biology lab.



Lab Automation

Agilent Automation Systems provide innovative liquid handling and microplate management instruments, systems and accessories meeting the high throughput demands of life science laboratories in pharmaceutical, biotech, and genomic research. The implementation of automation provides researchers higher throughput, improves data reproducibility and lowers variability. The latest editions to the portfolio include the BenchBot robot, a new mid-sized microplate handler and the Agilent Bravo AssayMAP platform. The Bravo AssayMAP extends the capabilities of Agilent's Bravo Automated Liquid Handling Platform with a novel solution that allows microscale protein sample separation and purification.

