

Partial Table of Contents

I. INTRODUCTION

II. WORLDWIDE MARKET AND TECHNOLOGY OVERVIEW

A. DNA SEQUENCING

1. Introduction
2. Sequencing Methods
3. Autoradiography
4. The Human Genome Project
5. Sequencing Automation
6. Image Scanners
7. Fluorescent Detection
8. Gene Profiling
9. Gene Expression
10. Polymorphism Screening
11. Protein Interaction Networks

B. DNA AND RNA PROBE TECHNOLOGY

1. Basic Principles
2. Probe Preparation
3. The DNA Probe Test
 - a. Sample Preparation
 - b. Hybridization
 - c. Separation
 - d. Detection/Measurement
4. Test Formats
 - a. Filter Hybridization
 - b. Southern Blot
 - c. Northern Blot
 - d. In Situ Hybridization
 - e. Others
5. Labeling Techniques
6. Amplification Methods
 - * PCR
 - Temperature Cyclers
 - PCR Variations
 - * Immuno-PCR
 - * QC-PCR
 - * DAP-PCR
 - * SDA
 - * TMA
 - * LCR
 - * bDNA
 - * HPA
 - * NASBA
 - * 3SR
 - * Others
 - Ampliprobe
 - CAR
 - CAS
 - CPT
 - Dendritic Polymer Technology
 - ISO-CR
 - LAT
 - Probe Networks
 - RAMP
 - Repair Chain Reaction
 - Rolling Circles
 - Sequence Independent Gene Amplification
 - Sequence Initiation Reaction
 - SISPA

C. DETECTION TECHNOLOGIES

1. Radioactive Methods
 - a. Overview
 - b. Major Isotopes (P-32, S-35, H-3, I-125)
2. Non-Isotopic Methods
 - a. Enzymatic
 - b. Chemical (Indirect, Direct)
 - c. Fluorescence
 - d. Chemiluminescence
 - e. Electrical Conductivity

D. INSTRUMENTATION REVIEW

1. Abbott LCx
2. Autogenomics Infinity
3. Beckman Coulter/Biomek FK
4. Becton Dickinson SDA
5. Bio-Rad GeneScope
6. Gen-Probe Tigris
7. Nanosphere Verigen Series
8. Roche Cobas Amplicor
9. Tecan LS Series

E. BIOCHIPS: GENOSENSORS, MICRO-ARRAYS, AND LABS-ON-THE-CHIP

- Liquid Transportation and Mixing
- Separation
- Reaction
- Detection

F. PHARMACOGENOMICS

G. MAJOR APPLICATIONS

1. Microbiology/Infectious Diseases

- a. Overview
- b. Major Infectious Diseases
 - * AIDS
 - * Adenovirus
 - * Anthrax/Bacillus Anthracis
 - * Babesiosis
 - * BEA/Bartonella
 - * Chagas Disease
 - * Campylobacter
 - * Chlamydia
 - * Creutzfeldt-Jakob's Disease
 - * Cytomegalovirus
 - * Ebola Virus
 - * EchoVirus
 - * Encephalitis
 - * Enteroviruses
 - * Epstein-Barr Virus
 - * Gonorrhoea
 - * Hepatitis A, B, C, D, E, F, G
 - * Herpes Simplex Virus
 - * Legionella
 - * Lyme Disease
 - * Malaria
 - * Mycoplasma
 - * Papillomaviruses/HPV
 - * Parvovirus B19
 - * Pneumonia
 - * Polyomaviruses
 - * Salmonellosis
 - * Shigellosis
 - * Streptococci
 - * Toxoplasmosis
 - * Tuberculosis
 - * West Nile Virus
 - * Yersinia
- c. Antibiotic Susceptibility

2. Cancer Testing

- a. Overview
- b. Major Cancer Types
 - * Prostate
 - * Lung
 - * Colon and Rectum
 - * Breast
 - * Skin
 - * Uterine
 - * Leukemia
 - * Oral
- c. Oncogenes

3. Genetic Diseases

- a. Overview
- b. Nucleic Acid Amplification
- c. Chromosome Imaging
- d. Genomics Technologies
- e. Proteomics Technologies
- f. Current Pharmacogenomic Test
- g. Future Pharmacogenomic Testing
- h. Major Diseases
 - * Achondroplasia
 - * Autosomal Dominant Polycystic Kidney Disease
 - * Cancer
 - * Cosmetogenomics
 - * Cystic Fibrosis
 - * Down's Syndrome
 - * Duchenne and Becker Muscular Dystrophy
 - * Factor V (Leiden)
 - * Factor IX Deficiency
 - * Fragile X Syndrome
 - * Heart Disease
 - * Hemochromatosis
 - * Hemophilia
 - * Huntington's Disease
 - * Maternal-Fetal Incompatibility
 - * Multiple Endocrine Neoplasia
 - * Phenylketonuria (PKU)
 - * Polycystic Kidney Disease
 - * Prenatal Screening
 - * Retinitis Pigmentosa
 - * Retinoblastoma
 - * Sickle Cell Anemia
 - * Spinal Muscular Atrophy
 - * Vitamin B12 Metabolism
- i. Social Issues and Concerns

4. Forensic Testing

- a. Overview
- b. Multilocus and Single Locus Probes
 - * Multilocus Probes
 - * Single Locus Probes
 - * PCR and RFLP

- c. The FBI
- d. DNA Profile Data Banks
 - * USA
 - * UK
- e. Judicial Implementation
- f. Major Crime Categories
- g. Factors Contributing to the DNA Probe Market Expansion
 - * Technology Availability
 - * Use of Hair as Evidence
- h. Wildlife Forensics
5. Paternity Testing/HLA Typing
6. Other Applications
 - a. Disease Susceptibility
 - b. Cardiovascular Diseases
 - c. Diabetes
 - d. Alzheimer's Disease
 - e. Plasma Purification
 - f. Organ Transplantation
 - g. Water Contamination
 - h. Others

G. COST ANALYSIS

1. Equipment
2. Consumables

H. COMPETING/COMPLEMENTING TECHNOLOGIES

1. Monoclonal Antibodies/Immunoassays
2. RNA Probes
3. 2D Electrophoresis
4. Flow Cytometry

I. REIMBURSEMENT ISSUES

J. WORLDWIDE MARKET OVERVIEW

1. Business Environment
2. Market Structure
3. Market Size and Growth

III. FRANCE

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

IV. GERMANY

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

V. ITALY

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

VI. JAPAN

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

VII. SPAIN

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

VIII. UK

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
- C. MARKET STRUCTURE
- D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

IX. USA

- A. EXECUTIVE SUMMARY
- B. BUSINESS ENVIRONMENT
 1. Health Care Expenditures
 2. Cost Consciousness
 3. Reimbursement
 4. Industry Consolidation
 5. Managed Care
 - a. HMO
 - b. PPO
 6. Hospitals
 7. Admissions
 8. Length of Stay
 9. Industry Diversification

10. Physician Demographics
11. Population Aging
 - a. Chronic Illness
 - b. Disease Incidence
 - c. Susceptibility to Iatrogenesis
 - d. Multiple Illness Cases
12. Laboratory Regulations
13. FDA Reform

C. MARKET STRUCTURE

1. Hospitals
2. Commercial/Private Laboratories
3. Blood Banks

D. MARKET SIZE, GROWTH AND MAJOR SUPPLIERS' SALES AND MARKET SHARES

X. MAJOR PRODUCT DEVELOPMENT OPPORTUNITIES

- A. INSTRUMENTATION
- B. REAGENT KITS AND TEST SYSTEMS/PANELS
- C. COMPUTERS, SOFTWARE AND AUTOMATION
- D. AUXILIARY PRODUCTS

XI. DESIGN CRITERIA FOR DECENTRALIZED TESTING PRODUCTS

XII. ALTERNATIVE MARKET PENETRATION STRATEGIES

- A. INTERNAL DEVELOPMENT
- B. COLLABORATIVE ARRANGEMENTS
- C. UNIVERSITY CONTRACTS
- D. DISTRIBUTION STRATEGIES FOR DECENTRALIZED MARKETS
 1. Marketing Approaches
 2. Product Complexity
 3. Customer Preference
 4. Established Suppliers
 5. Emerging Suppliers
 6. Major Types Of Distributors
 7. Market Segmentation

XIII. POTENTIAL MARKET ENTRY BARRIERS AND RISKS

- A. MARKET MATURITY
- B. COST CONTAINMENT
- C. COMPETITION
- D. TECHNOLOGICAL EDGE AND LIMITATIONS
- E. PATENT PROTECTION
- F. REGULATORY CONSTRAINTS
- G. DECENTRALIZED TESTING MARKET CHALLENGES

XIV. COMPETITIVE PROFILES

Abbott	Gen-Probe
Aclara	Gene Tec
Affymetrix	Illumina
Agilent	Innogenetics
Ambion	Kretech
Applied Biosystem	Li-Cor
ARCA Biopharma	Myriad Genetics
Beckman Coulter	Nanogen
BD	Orchid Biosciences
Biokit	Qiagen
BioMerieux	Roche
Biotest	Sangtec
Caliper	Sequenom
Cepheid	Seracare Life Science
Chiron	Scienion
Decode	Sierra Diagnostics
Diadexus	Shimadzu
Digene	Takara Bio
Eiken	Tepnel Life Sciences
Enzo	Tecan Group
Exact Sciences	Third Wave
Fujirebio	

XV. APPENDIXES

APPENDIX A: Major Companies Developing Or Marketing Molecular Diagnostic Reagents and Test Kits

APPENDIX B: Major Universities And Research Centers Developing Molecular Diagnostic Technology

APPENDIX C: Glossary Of Terms

APPENDIX D: Currency Exchange Rates