

European Molecular Diagnostics Market: Innovative Technologies and Emerging Business Opportunities

https://marketpublishers.com/r/E2DD2B5B13EEN.html

Date: December 2012 Pages: 970 Price: US\$ 14,800.00 (Single User License) ID: E2DD2B5B13EEN

Abstracts

This 970 page comprehensive five-country report is designed to help current suppliers and potential market entrants identify and evaluate major business opportunities emerging in the molecular diagnostics market during the next five years. The report explores business and technological trends in major European countries (France, Germany, Italy, Spain, UK); provides 5-year test volume/sales forecasts; estimates shares of leading competitors; compares features of major analyzers; profiles leading market players; and identifies specific product and business opportunities facing instrument and consumable suppliers during the next five years.

The \$4.5 billion molecular diagnostics market is unquestionably the most rapidly growing segment of the in vitro diagnostics industry. The next five years will witness significant developments in reagent systems and automation, as well as introduction of a wide range of new products that will require innovative marketing approaches. The rate of market penetration into routine clinical laboratories, however, will depend on the introduction of cost-effective and automated systems with amplification methods.

In order to successfully capitalize on the opportunities presented by the molecular diagnostics market, many companies are already exploiting new technologies as corporate strategic assets, managed in support of business and marketing strategies. Integrating new technology planning with business and corporate strategies will be one of the most challenging tasks for diagnostics companies during the next five years.

Contains 970 pages and 75 tables



Contents

INTRODUCTION

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
 - Polymerase Chain Reaction
 - **Temperature Cyclers**
 - **PCR** Variations
 - Immuno-PCR
 - QC-PCR



DAP-PCR Strand Displacement Activation TMA Ligase Chain Reaction **Branched DNA** Hybridization Protection Assay Nucleic-Acid Sequence-Based Amplification Self-Sustained Sequence Replicase 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 Solid Phase Amplification 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 Labels b. Chemical Labeling Indirect Chemical Labeling

Direct Chemical Labeling

- c. Fluorescence
- d. Chemiluminescence



- e. Electrical Conductivity
- D. Instrumentation Review
 - 1. Abbott LCx
 - 2. Beckman Coulter/Biomek FK
 - 3. Becton Dickinson SDA
 - 4. Bio-Rad GeneScope
 - 5. Gen-Probe Tigris
 - 6. Roche Cobas Amplicor
 - 7. Tecan LS Series
- E. Biochips: Genosensors, Microarrays, 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
 - Structure and Composition
 - Classification
 - **AIDS** Origins
 - Animal Lentivirus Systems
 - Virus Receptors
 - HIV Infections in Humans
 - Pathogenesis and Pathology
 - CD4T Lymphocytes and Memory Cells
 - Monocytes and Macrophages
 - Lymphoid Organs
 - **Neural Cells**
 - **Viral Coinfections**
 - **Clinical Findings**
 - Plasma Viral Load
 - Pediatric AIDS
 - Neurologic Disease
 - **Opportunistic Infections**
 - Cancer
 - Immunity



Virus Isolation Serology Viral Nucleic Acid/Antigen Detection Epidemiology Worldwide Spread of AIDS **United States** Routes of Transmission **DNA** Probes Overview Quantitative PCR In Situ PCR **Needed Improvements** Viral Load/Drug Resistance Testing Genotype and Phenotype Testing **Blood Banking Considerations** Adenovirus Background **Diagnostic Tests** Vaccines and Drugs Adeno-Associated Viruses (AAV) Anthrax/Bacillus Anthracis Background **Diagnostic Tests** Vaccines and Drugs **Babesiosis** Background **BEA and Other Bartonella Diseases** Background **Diagnostic Tests** Vaccines and Drugs Chagas Disease Background Campylobacter Background **Diagnostic Tests Culture Identification** Vaccines and Drugs Chlamydia

European Molecular Diagnostics Market: Innovative Technologies and Emerging Business Opportunities

Background



Chlamydia psittaci Chlmaydia pneumoniae Chlamydia trachomatis **Diagnostic Tests** Vaccines and Drugs Creutzfeldt-Jakob's Disease Background **Blood Transmission Diagnostic Tests** Major Commercial and Academic Players Bayer **Disease Sciences/Bio Tec Global** Imperial College School of Medicine **Ortho-Clinical Diagnostics** Pall **ProMetic Life Sciences** Proteome Sciences/Idexx Q-One Biotech Serono U.S. Agricultural Research Service Drugs Vaccines Cytomegalovirus Background Chorioretinitis Gastrointestinal Central Nervous System Disease **Diagnostic Tests** Vaccines and Drugs Ebola Virus Background Epidemiology **Clinical Syndromes Diagnostic Tests** Vaccines and Drugs **EchoVirus** Background Acute Aseptic Meningitisis Encephalitis



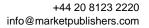
Exanthems Respiratory Disease Myopericarditis Neonatal Infections Diagnostic Tests Vaccines and Drugs Encephalitis Background **Diagnostic Tests** Vaccines and Drugs **Enteroviruses** Background **Diagnostic Tests** Viral Isolation and Identification Antibody Tests Vaccines and Drugs **Epstein-Barr Virus** Background **Diagnostic Tests** Vaccines and Drugs Gonorrhea Background **Diagnostic Tests** Vaccines and Drugs Hepatitis Hepatitis A Hepatitis **B** Structure and Composition Replication Hepatitis C Hepatitis D (Delta) Hepatitis E Hepatitis G Hepatitis Infections Pathology **Clinical Findings** Laboratory Tests Hepatitis A Hepatitis B

European Molecular Diagnostics Market: Innovative Technologies and Emerging Business Opportunities

Hepatitis C



Hepatitis D Hepatitis E Virus-Host Immune Reactions Epidemiology Hepatitis A Hepatitis **B** Hepatitis C Hepatitis D (Delta) Vaccines and Drugs Herpes Simplex Virus Background **Diagnostic Tests** Vaccines and Drugs Legionella Background **Diagnostic Tests** Vaccines and Drugs Lyme Disease Background **Clinical Description Clinical Case Definition** Laboratory Criteria for Diagnosis **Case Classification Diagnostic Tests** Vaccines and Drugs Malaria Mycoplasma Background Ureaplasma Urealyticum & Mycoplasma Hominis **Diagnostic Tests** Vaccines and Drugs Papillomaviruses/HPV Background HPV in Cancer **Cervical Neoplasm Diagnostic Tests** Vaccines and Drugs Prevention





Parvovirus B19 Background Microbiology Epidemiology **Clinical Syndromes** Erythema Infectiosum (Slapped Cheek) Adult Polyarthropathy **Transient Aplastic Crisis Transient Pancytopenia** Red Cell Aplasia in Immunocompromised Perinatal Infections **Diagnostic Test** Vaccines and Drugs Pneumonia Background **Diagnostic Tests** Vaccines and Drugs Polyomaviruses Background **Diagnostic Tests** Vaccines and Drugs Salmonellosis Background **Diagnostic Tests** Vaccines and Drugs Shigellosis Background **Diagnostic Tests** Vaccines and Drugs Streptococci Background **Diagnostic Tests** Vaccines and Drugs Group A Streptococci Group B Streptococci Toxoplasmosis Background **Diagnostic Tests** Vaccines and Drugs



Tuberculosis Background **Diagnostic Tests Microscopic Characteristics Cultural Characteristics** Skin Tests **MDRTB** Vaccines and Drugs West Nile Virus Background **Clinical Syndromes Diagnostic Tests** Vaccines and Drugs Yersinia Background **Diagnostic Tests** Vaccines and Drugs c. Antibiotic Susceptibility 2. Cancer Testing a. Overview b. Major Cancer Types Prostate Lung Colon and Rectum Breast Skin Uterine Leukemia Oral c. Oncogenes Abl/abl-bcr AIB1 BCL-2 BRCA1 CD44 C-fos C-myb C-myc

CYP17



Erb-B

HPC1

N-myc

P40

P51

P53

PIK3CA

PTI-1

Ras

Reg Sis

Src

- 3. Genetic Diseases
 - a. Overview
 - b. Nucleic Acid Amplification
 - c. Chromosome Imaging
 - d. Genomics Technologies
 - e. Proteomics Technologies
 - f. Current Pharmacogenomic Tests
 - 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

Hemochomatosis

Hemophilia

Huntington's Disease

Maternal-Fetal Incompatibility

Multiple Endocrine Neoplasia

Phenylketonuria (PKU)

Polycystic Kidney Disease (PKD)



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

U.S.A.

U.K.

- 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 Testing
- b. Cardiovascular Diseases
- c. Diabetes
- d. Alzheimer's Disease
- e. Periodontal Disease
- f. Plasma Purification
- g. Organ Transplantation
- h. Water Contamination
- i. Other
- H. Competing/complementing Technologies
 - 1. Monoclonal Antibodies/Immunoassays
 - 2. RNA Probes
 - 3. Two-Dimensional Electrophoresis
 - 4. Flow Cytometry



FRANCE

- A. Executive Summary
- B. Business Environment
- C. Market Structure
- D. Market Size, Growth And Major Suppliers' Sales And Market Shares

GERMANY

- A. Executive Summary
- **B.** Business Environment
- C. Market Structure
- D. Market Size, Growth And Major Suppliers' Sales And Market Shares

ITALY

- A. Executive Summary
- **B.** Business Environment
- C. Market Structure
- D. Market Size, Growth And Major Suppliers' Sales And Market Shares

SPAIN

- A. Executive Summary
- **B.** Business Environment
- C. Market Structure
- D. Market Size, Growth And Major Suppliers' Sales And Market Shares

U.K.

- A. Executive Summary
- **B.** Business Environment
- C. Market Structure
- D. Market Size, Growth And Major Suppliers' Sales And Market Shares Major Product Development Opportunities
 - A. Instrumentation
 - B. Reagent Kits and Test Systems/panels
 - C. Computers, Software and Automation



D. Auxiliary Products

DESIGN CRITERIA FOR DECENTRALIZED TESTING PRODUCTS

ALTERNATIVE MARKET PENETRATION STRATEGIES

- A. Internal Development
- B. Collaborative Arrangements
- C. University Contracts
- D. Distribution Strategies For Decentralized Testing Markets
 - 1. Marketing Approaches
 - 2. Product Complexity
 - 3. Customer Preference
 - 4. Established Suppliers
 - 5. Emerging Suppliers
 - 6. Major Types Of Distributors
 - 7. Market Segmentation

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

COMPETITIVE PROFILES

Abbott Affymetrix Agilent Applied Gene Technologies Arca Beckman Coulter/Danaher Becton Dickinson Biokit BioMerieux



Bio-Rad Biotest Caliper Cepheid Decode Diadexus Eiken Enzo **Exact Sciences** Fujirebio Gen-Probe Hologic Illumina Innogenetics/Solvay **Kreatech** Li-Cor Biosciences Life Technologies **Monogram Biosciences** Myriad Genetics Nanogen/Elitech **Novartis** Orchid CellMark **Ortho-Clinical Diagnostics Proteome Sciences** Qiagen Roche Scienion Sequenom Shimadzu Siemens Sierra Molecular Takara Bio **Tecan Group**

APPENDIXES

Appendix I: Major Universities and Research Centers Developing Molecular Diagnosti Technology Appendix II: Glossary of Terms



Appendix III: Currency Exchange Rates



List Of Tables

LIST OF TABLES

Major Companies Developing or Marketing AIDS Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Adenovirus Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Campylobacter Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Chlamydia Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing CMV Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing EBV Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Gonorrhea Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Hepatitis Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Herpes Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Legionella Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Lyme Disease Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Mycoplasma Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Papilloma Virus Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Pneumonia Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Salmonella Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Shigella Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Streptococci Molecular Diagnostic And Other Direct Identification Tests

Major Companies Developing or Marketing Toxoplasmosis Molecular Diagnostic And



Other Direct Identification Tests Major Companies Developing or Marketing Tuberculosis Molecular Diagnostic And Other Direct Identification Tests **Oncogenes Potential Application in Cancer Diagnosis** Major Companies Developing or Marketing Cancer Molecular Diagnostic Tests Major Companies Developing or Marketing Molecular Diagnostic Test For Genetic Diseases Summary Table France, Molecular Diagnostic Test Volume And Sales Forecast by Major Application France, Laboratories Performing DNA Sequencing By Market Segment France, Molecular Diagnostics Market Potential Laboratory Universe by Market Segment France, Molecular Diagnostic Test Volume Forecast By Major Application France, Major Infectious Disease Molecular Diagnostics Test Volume Forecast France, Infectious Disease Screening NAT Volume Forecast France, Molecular Diagnostics Market Forecast By Major Application France, Infectious Disease Screening NAT Reagent Market Forecast by Test France, Molecular Diagnostics Market By Major Supplier France, HIV/Hepatitis NAT Market Reagent Sales By Major Supplier Summary Table Germany, Molecular Diagnostics Test Volume And Sales Forecast by Major Application Germany, Laboratories Performing DNA Sequencing by Market Segment Germany, Molecular Diagnostics Market Potential Laboratory Universe by Market Segment Germany, Molecular Diagnostics Test Volume Forecast By Major Application Germany, Major Infectious Disease Molecular Diagnostics Test Volume Forecast Germany, Infectious Disease Screening NAT Volume Forecast Germany, Molecular Diagnostics Market Forecast By Major Application Germany, Infectious Disease Screening NAT Reagent Market Forecast by Test Germany, Molecular Diagnostics Market by Major Supplier Germany, HIV/Hepatitis NAT Market Reagent Sales by Major Supplier Summary Table Italy, Molecular Diagnostics Test Volume And Sales Forecast by Major Application Italy, Laboratories Performing DNA Sequencing by Market Segment Italy, Molecular Diagnostics Market Potential Laboratory Universe by Market Segment Italy, Molecular Diagnostics Test Volume Forecast By Major Application Italy, Major Infectious Disease Molecular Diagnostics Test Volume Forecast Italy, Infectious Disease Screening NAT Volume Forecast Italy, Molecular Diagnostics Market Forecast By Major Application



Italy, Infectious Disease Screening Nat Reagent Market Forecast by Test

Italy, Molecular Diagnostics Market By Major Supplier

Italy, HIV/Hepatitis NAT Market By Major Supplier

Summary Table Spain, Molecular Diagnostics Test Volume And Sales Forecast by Major Application

Spain, Laboratories Performing DNA Sequencing by Market Segment

Spain, Molecular Diagnostics Market, Potential Laboratory Universe by Market Segment

Spain, Molecular Diagnostics Test Volume Forecast by Major Application

Spain, Major Infectious Disease Molecular Diagnostics Test Volume Forecast

Spain, Infectious Disease Screening NAT Volume Forecast

Spain, Molecular Diagnostics Market Forecast By Major Application

Spain, Infectious Disease Screening Nat Reagent Market Forecast by Test

Spain, Molecular Diagnostics Market By Major Supplier

Spain, HIV/Hepatitis NAT Market Reagent Sales by Major Supplier

Summary Table U.K., Molecular Diagnostics Test Volume And Sales Forecast by Major Application

U.K., Laboratories Performing Dna Sequencing by Market Segment

U.K., Molecular Diagnostics Market Potential Laboratory Universe by Market Segment

U.K., Molecular Diagnostics Test Volume Forecast By Major Application

- U.K., Major Infectious Disease Molecular Diagnostics Test Volume Forecast
- U.K., Infectious Disease Screening NAT Volume Forecast
- U.K., Molecular Diagnostics Market Forecast By Major Application
- U.K., Infectious Disease Screening NAT Reagent Market Forecast by Test
- U.K., Molecular Diagnostics Market by Major Supplier



I would like to order

Product name: European Molecular Diagnostics Market: Innovative Technologies and Emerging Business Opportunities

Product link: https://marketpublishers.com/r/E2DD2B5B13EEN.html

Price: US\$ 14,800.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/E2DD2B5B13EEN.html</u>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name: Last name: Email: Company: Address: City: Zip code: Country: Tel: Fax: Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <u>https://marketpublishers.com/docs/terms.html</u>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970

