

# Italy Nucleic Acid Testing Market: Innovative Technologies and Emerging Business Opportunities

https://marketpublishers.com/r/I3E1DC93B19EN.html

Date: December 2012 Pages: 850 Price: US\$ 4,720.00 (Single User License) ID: I3E1DC93B19EN

# Abstracts

#### Highlights

Comprehensive 850-page market segmentation analysis of the Italian NAT market.

Major issues pertaining to the Italian NAT laboratory practice, as well as key economic, regulatory, demographic, social and technological trends with significant market impact during the next ten years.

An extensive review of DNA probe and biochip technologies, test formats, detection methodologies, trends in testing automation and amplification methods.

Ten-year test volume and reagent sales forecasts for the following categories:

Infectious Diseases

Cancer

Forensic Testing

Genetic Diseases

Paternity Testing/HLA Typing

Review of testing methodologies and instrumentation technologies.



Feature comparison of automated and semiautomated analyzers.

Sales and market shares of leading suppliers.

Over 60 specific opportunities for NAT instruments, test systems, IT and auxiliary products.

Profiles of major suppliers, and emerging market entrants, including their sales, product portfolios, marketing tactics, technological know-how, new products in R&D, collaborative arrangements and business strategies.

Alternative market penetration strategies.

Potential market entry barriers and risks.

Business planning issues and concerns.

Contains 850 pages and 36 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

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

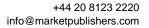


**Exanthems Respiratory Disease Myopericarditis Neonatal Infections Diagnostic Tests** Vaccines and Drugs Encephalitis Background **Diagnostic Tests** Vaccines and Drugs Enteroviruses Background **Diagnostic Tests** Viral Isolation and Identification Antibody Tests Vaccines and Drugs **Epstein-Barr Virus** 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

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



- I. Worldwide Market Overview
  - 1. Business Environment
  - 2. Market Structure
  - 3. Market Size and Growth

### ITALY

- 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 NAT Technology Appendix II: Glossary of Terms Appendix III: Currency Exchange Rates



# List Of Tables

### LIST OF TABLES

Major Companies Developing or Marketing AIDS NAT And Other Direct Identification Tests Major Companies Developing or Marketing Adenovirus NAT And Other Direct Identification Tests Major Companies Developing or Marketing Campylobacter NAT And Other Direct Identification Tests Major Companies Developing or Marketing Chlamydia NAT 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 NAT And Other Direct Identification Tests Major Companies Developing or Marketing Hepatitis NAT And Other Direct Identification Tests Major Companies Developing or Marketing Herpes NAT And Other Direct Identification Tests Major Companies Developing or Marketing Legionella NAT And Other Direct Identification Tests Major Companies Developing or Marketing Lyme Disease NAT And Other Direct Identification Tests Major Companies Developing or Marketing Mycoplasma NAT And Other Direct Identification Tests Major Companies Developing or Marketing Papilloma Virus NAT And Other Direct **Identification Tests** Major Companies Developing or Marketing Pneumonia NAT And Other Direct Identification Tests Major Companies Developing or Marketing Salmonella NAT And Other Direct Identification Tests Major Companies Developing or Marketing Shigella NAT And Other Direct Identification Tests Major Companies Developing or Marketing Streptococci NAT And Other Direct Identification Tests Major Companies Developing or Marketing Toxoplasmosis NAT And Other Direct



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



#### I would like to order

Product name: Italy Nucleic Acid Testing Market: Innovative Technologies and Emerging Business **Opportunities** 

Product link: https://marketpublishers.com/r/I3E1DC93B19EN.html

Price: US\$ 4,720.00 (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 https://marketpublishers.com/r/I3E1DC93B19EN.html

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 https://marketpublishers.com/docs/terms.html

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

