









MEDICAL DEVICES

PHARMACEUTICALS

CHEMICALS

FOOD & BEVERAGE

ELECTRONICS

Table of Contents and List of Tables

Copyright 2012 VENTURE PLANNING GROUP This material is confidential for use by our clients only and may not be reprinted or reproduced.

VPG Publications, Consulting, Clients www.VPGcorp.com

VPG Market Research Reports www.VPGMarketResearch.com

VPG Partner Reports www.Research-Store.com/VPG

Table of Contents

Worldwide Technology and Market Overview

A. Major Blood Typing, Grouping and Infectious Disease Screening Tests

- 1. Blood Typing and Grouping Tests
 - a. ABO
 - b. Antibody Panels
 - c. Antibody Screening
 - d. Antigen Typing
 - e. Antiglobulin Test
 - f. Crossmatch
 - g. HLA Typing
 - h. Rh
 - i. Other Blood Groups

2. Infectious Disease Screening Tests

- a. AIDS
 - Structure and Composition
 - Classification
 - Origin of AIDS
 - Animal Lentivirus Systems
 - Virus Receptors
 - HIV Infections in Humans
 - -Pathogenesis & Pathology
 - -Overview of Course of HIV Infection
 - CD4T Lymphocytes and Memory Cells
 - Monocytes and Macrophages
 - Lymphoid Organs
 - Neural Cells
 - Viral Coinfections
 - -Clinical Findings
 - Plasma Viral Load
 - Pediactric AIDS
 - -Neurologic Disease
 - -Opportunistic Infections
 - -Protozoa
 - -Fungi
 - -Bacteria

- Viruses
- Cancer
- Immunity
- Laboratory Diagnosis
 - -Virus Isolation
 - -Serology
 - -Detection of Viral Nucleic Acid or Antigens
- Epidemiology
 - -Worldwide Spread of AIDS
 - -United States
 - -Routes of Transmission
- Prevention, Treatment, And Control
 - -Antiviral Drugs
 - -Vaccines Against HIV
- Transmission of HIV in Blood Products
- HIV Transmission in Transplant and Artificial Insemination Recipients
- Diagnostic Tests
 - Enzyme Immunoassay Interpretation
 - Specificity, Sensitivity, and Predictive Value of Enzyme Immunoassay
- Competition Assays
- Western Blot Technique
- Immuno-Fluorescence Assay (IFA)
- Radioimmunoprecipitation
- HIV-1/HIV-2 Combination Testing
- Methods of HIV-Antigen Detection
- Antigen Assays and Blood Screening
- Urine Tests
- DNA Probes
 - Overview
 - Quantitative Polymerase Chain Reaction
 - In Situ PCR
 - Needed Improvements
- Viral Load/Drug Resistance Testing
- Genotype and Phenotype Testing
- Blood Banking Considerations
- b. Hepatitis
 - Hepatitis A
 - Hepatitis B
 - -Structure and Composition
 - -Replication of Hepatitis B Virus

- Hepatitis C
- Hepatitis D (Delta Hepatitis)
- Hepatitis E
- Hepatitis G
- Hepatitis Virus Infections In Humans
 - -Pathology
- Clinical Findings
- Laboratory Features
 - -Hepatitis A
 - -Hepatitis B
 - -Hepatitis C
 - -Hepatitis D
 - -Hepatitis E
- Virus-Host Immune Reactions
- Epidemiology
 - -Hepatitis A
 - -Hepatitis B
 - -Hepatitis C
 - -Hepatitis D (Delta Agent)
- Vaccines and Drugs
- c. Cytomegalovirus
 - Background
 - Chorioretinitis
 - Gastrointestinal
 - Central Nervous System Disease
 - Diagnostic Tests
 - Vaccines and Drugs
- d. Syphilis
 - Background
 - Diagnostic Tests
 - Vaccines and Drugs
- e. West Nile Virus
 - Background
 - Clinical Syndromes
 - Diagnostic Tests
 - Vaccines and Drugs
- f. Parvovirus B19
 - Microbiology
 - Epidemiology
 - Clinical Syndromes
 - -Erythema Infectiosum Slapped (cheek)
 - -Adult Polyarthropathy

- -Transient Aplastic Crisis
- -Transient Pancytopenia
- -Red Cell Aplasia in the Immunocompromised
- -Perinatal Infections
- Diagnosis
- Treatment
- g. Creutzfeldt-Jakob's Disease
 - Background
 - Transmission
 - Diagnostic Tests
 - Major Commercial and Academic Players
 - -Bayer
 - -Disease Sciences/BioTec 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
- h. Malaria
- i. Chagas Disease
- j. Babesiosis
- 3. Pathogen Reduction
- 4. Leukocyte Reduction
 - Background
 - Methods
- B. Instrumentation Review: Operating Characteristics, Features and Selling Prices of Leading Automated and Semiautomated Analyzers Manufactured by:
 - Abbott
 - Beckman Coulter/Danaher
 - Bio-Rad
 - BioMerieux
 - Gen-Probe
 - Grifols

- Immucor
- Nanosphere
- Ortho-Clinical Diagnostics
- Roche
- Sarstedt
- Siemens
- Tecan

C. Major in Vitro Diagnostic Technologies And Their Potential Applications

- 1. Molecular Diagnostics
 - a. Overview
 - b. NAT
- 2. Monoclonal and Polyclonal Antibodies
- 3. Immunoassays
 - a. Technological Principle
 - b. Chemiluminescence
 - c. Enzyme Immunoassays (EIA)
 - Overview
 - ELISA
 - EMIT
 - Electrochemical
 - d. Radioimmunoassays (RIA)
 - e. Immunoprecipitation
 - f. Affinity Chromatography
- 4. Microtitration Plates
- 5. IT and Automation
- 6. Lasers
- 7. Robotics
- 8. Synthetic Red Cell Substitutes
- 9. Genetically Engineered Blood Components
 - a. Albumin
 - b. Factor VIII
 - c. Alpha-2 Antiplasmin
 - d. Antithrombin III
 - e. Factor IX
 - f. Von Willebrand's Factor
 - g. Fibrinogen
 - h. t-PA
- 10. Blood Preservation
- 11. Autologous Blood Transfusion/Freezing

U.S.A.

- A. Executive Summary
- B. Business Environment
 - 1. Overview
 - 2. Health Care Expenditures
 - 3 Cost Consciousness
 - 4. Industry Consolidation
 - 5. Managed Care
 - 6. Hospitals
 - 7. Admissions
 - 8. Length of Stay
 - 9. Industry Diversification
 - 10. Physician Demographics
 - 11. Population Aging
 - a. Chronic Illnesses
 - b. Disease Incidence
 - c. Susceptibility to Latrogenesis
 - d. Multiple Illness Cases
 - 12. Laboratory Regulations
- C. Market Structure
- D. Market Size, Growth and Major Suppliers' Sales and Market Shares for Blood Typing, Grouping and Infectious Disease Screening Tests

Major Product Development Opportunities

- A. Blood Typing and Grouping
- B. Infectious Disease Screening
- C. Auxiliary

Alternative Market Penetration Strategies

- A. Internal Development
- B. Collaborative Arrangements
- C. University Contracts

Potential Market Entry Barriers and Risks

- A. Market Maturity
- B. Cost Containment
- C. Competition
- D. Technological Edge and Limitations
- E. Patent Protection

Competitive Assessments

- Abbott
- Beckman Coulter/Danaher
- Becton Dickinson
- Biokit
- BioMerieux
- Bio-Rad
- Diagast
- DiaSorin
- Fujirebio
- Gen-Probe
- Grifols
- Immucor
- Innogenetics
- Ortho-Clinical Diagnostics
- Orchid CellMark
- Novartis Diagnostics
- Proteome Sciences
- Roche
- Siemens
- Tecan

List of Tables

Major Companies Developing or Marketing Blood Typing and Grouping Tests

Major Companies Developing or Marketing HLA Typing Tests

Major Companies Developing or Marketing AIDS Tests

Major Companies Developing or Marketing Hepatitis Tests

Major Companies Developing or Marketing CMV Tests

Major Companies Developing or Marketing Syphilis Tests

Major Companies Developing or Marketing Blood Bank Analyzers

Executive Summary Table: U.S.A., Total Blood Bank Test Volume and Reagent Sales Forecast by Test Category

U.S.A., Estimated Number of Inpatient and Ambulatory Surgeries

U.S.A., Facilities Performing Blood Bank Tests by Market Segment

U.S.A., Hospital Laboratories Performing Blood Bank Tests by Bed Size

U.S.A., Commercial/Private Laboratories Performing Blood Bank Tests by Annual Test Volume Forecast

U.S.A., Facilities Collecting Whole Blood And Plasma by Market Forecast Segment

List of Tables (continued)

- U.S.A., Whole Blood and Plasma Collections By Market Forecast Segment
- U.S.A., All Market Segments Blood Typing and Grouping Test Volume by Market Forecast Segment
- U.S.A., All Market Segments Blood Typing And Grouping Test Volume Forecast
- U.S.A., Hospital Laboratories Blood Typing and Grouping Test Volume Forecast
- U.S.A., Community and Regional Blood Centers Blood Typing and Grouping Test Volume Forecast
- U.S.A., Commercial/Private Laboratories Blood Typing and Grouping Test Volume Forecast
- U.S.A., Plasma Fractionation Centers Blood Typing and Grouping Test Volume Forecast
- U.S.A., Military Blood Banks Blood Typing and Grouping Test Volume Forecast
- U.S.A., All Market Segments Infectious Disease Screening Test Volume Forecast By Market Segment
- U.S.A., All Market Segments Infectious Disease Screening Test Volume Forecast
- U.S.A., Community and Regional Centers Infectious Disease Screening Test Volume Forecast
- U.S.A., Plasma Fractionation Centers Infectious Disease Screening Test Volume Forecast

List of Tables (continued)

- U.S.A., Hospital Blood Banks Infectious Disease Screening Test Volume Forecast
- U.S.A., Military Blood Banks Infectious Disease Screening Test Volume Forecast
- U.S.A., All Market Segments Blood Typing And Grouping Reagent Market Forecast by Market Segment
- U.S.A., All Market Segments Blood Typing And Grouping Reagent Market Forecast by Market Segment
- U.S.A., Hospital Blood Banks Blood Typing And Grouping Reagent Market Forecast by Major Test
- U.S.A., Community and Regional Blood Centers Blood Typing and Grouping Reagent Market Forecast By Major Test
- U.S.A., Commercial/Private Laboratories Blood Typing and Grouping Reagent Market Forecast By Major Test
- U.S.A., Plasma Fractionation Centers Blood Typing and Grouping Reagent Market Forecast By Major Test
- U.S.A., Military Blood Banks Blood Typing And Grouping Reagent Market Forecast by Major Test
- U.S.A., All Market Segments Infectious Disease Screening Reagent Market by Market Forecast Segment
- U.S.A., All Market Segments Infectious Disease Screening Reagent Market by Market Forecast Segment

List of Tables (continued)

- U.S.A., Community and Regional Centers Infectious Disease Screening Reagent Market Forecast By Test
- U.S.A., Plasma Fractionation Centers Infectious Disease Screening Reagent Market Forecast By Test
- U.S.A., Hospital Blood Banks Infectious Disease Screening Reagent Market Forecast By Test
- U.S.A., Military Blood Banks Infectious Disease Screening Reagent Market Forecast By Test
- U.S.A., Major Suppliers of Blood Typing And Grouping Reagents Estimated Sales And Market Shares
- U.S.A., HIV/HTLV Blood Screening Market, Reagent Sales by Major Supplier
- U.S.A., Hepatitis Blood Screening Market, Reagents Sales by Major Supplier
- U.S.A., Hepatitis C Blood Screening Market, Reagent Sales By Major Supplier
- U.S.A., HIV/Hepatitis C NAT Market, Reagent Sales By Major Supplier
- U.S.A., West Nile Virus NAT Market, Reagent Sales by Major Supplier
- U.S.A., CMV Blood Screening Market, Reagent Sales by Major Supplier
- U.S.A., Syphilis Blood Screening Market, Reagent Sales by Major Supplier