Bioinformatics in IVD Testing

Description: Computer diagnostics could offer opportunity for clinical laboratory professionals to add value to clinicians in diagnosing diseases. IT companies in collaboration with test vendors are developing computer software that complements the skills of human test interpretation.

This report, Bioinformatics in IVD Testing looks at the various IVD market segments where bioinformatics is expected to have the most impact.

Bioinformatics-based testing has made a huge contribution to cancer diagnosis and therapy management. In infectious disease diagnostics it allows the detection of difficult to culture pathogenic bacteria or viruses and to uncover the epidemiology of infections. The bioinformatic analysis of mutations of known human genes is used to diagnose common disorders, inherited diseases, or different types of cancer and can indicate the prognosis of malignant diseases.

What developments are driving this trend? What are labs and providers doing to incorporate these products into practice? And how are payors and regulators reacting? Who is partnering with who to deliver a solid combination product? This report delves into these issues and provides an excellent round-up of the current status of bioinformatics in the IVD industry.

As part of its coverage, the report provides information on the following developments:
- Selected Diagnostic Tests That Incorporate Bioinformatics
- Selected Multiplexed Tissue-Based Cancer Tests
- Selected Histology Analyses Software Tools
- Selected Blood-Based Cancer Biomarker Tests That Use Software Analysis Tools
- Selected Innovations in Bioinformatic-Based Tests For CVD
- Selected Chronic Diseases Tests With Integrated Bioinformatics
- Selected Innovations in Bioinformatic-Based Tests For Psychiatric Disorders
- Selected Systems For Bioinformatics-Based Infectious Disease Testing
- Selected Next Generation Sequencing Platforms

The report discusses tests and technologies that are currently available and those that are expected to take their place. Generally, current products and technologies establish the standard of care and its value to payers. Many of the assays and techniques presented in the report are expected to replace the standard of care in 2013, but with healthcare systems' emphasis on cost/benefit analysis for new technologies adoption, the market value and thus penetration capabilities of newer approaches may be limited.

The report looks at the bioinformatics-based product offerings and developments of the following companies, among others:
- Abbott
- Cannon
- RocheAffymetrix Inc.
- AssureRx Health, Inc.
- Genomic Health, Inc.
- Bio-Reference Laboratories, Inc. (BRLI)
- Dako A/S
- Siemens
- Thermo Fisher
- Gen-Probe
- Medtronic Inc.
- PerkinElmer, Inc.
- Prometheus Labs
- QIAGEN N.V.
- Quest

Sophisticated lab instruments can produce detailed molecular and protein analyses that are reported as data points, bioinformatics-based tools integrated into these instruments convert these data points into patient specific reports.
In addition to surveying the many uses for bioinformatics in IVD, the report provides 2012 market estimates for the following IVD market segments:

- Histology/Cytology
- Immunoassays
- Molecular Assays
- Mass Spec Clinical Tests and Services
- Molecular Pharmacodiagnostics
- Tissue Arrays
- Circulating Tumor Cells

These are the segments most affected by bioinformatics. The report also includes a conclusions section where analyst Shara Rosen interprets developments in the market to assess the commercial possibilities for bioinformatics in medicine. The information presented in this report is derived on publicly available information sources such as company, government, and medical organization reports. The analysis is based on the author's industry knowledge combined with literature searches and interviews with industry professionals and experts in the areas of in vitro diagnostics and molecular pathologists.

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Biolmage
Bio-Reference Laboratories, Inc. (BRLI)
bioTheranostics
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Children's Hospital of Philadelphia:
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CombiMatrix Molecular Diagnostics, Inc.
Complete Genomics
Crescendo Bioscience, Inc.
Dako A/S
deCode genetics ehf
Diaxonal Group
DiaGenic ASA
DiaTech Oncology
Duke University Medical Center
Everist Genomics, Inc. (EGI)
Foundation Medicine, Inc
Genelex Corporation
Genomic Health, Inc.
Health Discovery Corporation (HDC)
Inform Genomics
Lab21 Limited
Life Technologies
Massachusetts Institute of Technology
Mayo Medical Laboratories
Medtronic Inc.
Metabolon Inc.
Omnyx, LLC
One Lambda, Inc.
Oregon Health & Science University (OHSU)
Pathogenica
Pathway Genomics
PerkinElmer, Inc.
PGXL Laboratories
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University of Houston
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