Cancer
Personalized Medicine

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In this GEN Market & Tech Analysis Report we examine the landscape of Cancer Personalized Medicine.

- Based on the Results of Bottom-Up Market Analyses which Pinpoint the Current Status and Trajectory of Cancer Personalized Medicine
- Quantitative Analysis of Cancer Personalized Medicine and Framing it into the Context of the Broader Personalized Medicine Field
- Penetrance of Various Biomarker Classes into Research Currently
- Penetrance of Various Technology Platforms for Biomarker Interrogation
- Segmentation of the Cancer Personalized Medicine Marketplace vis-à-vis Cancer Classes Studied
- Industry Drivers and Challenges for Adoption
Breakout of the Broader Personalized Medicine Marketplace

- Developing Technologies and Products/Tools for Personalized Medicine: 44%
- Conducting Clinical Trials using Defined Patient Populations: 7%
- Identifying biomarkers of value for defining patient populations: 28%
- Designing biomarker assays defining patient populations: 10%
- Designing therapeutics based patient populations: 11%

Segmentation of the Field into its Various Constituents
Breakout of the Broader Personalized Medicine Space by Disease Class

- HIV Infection/AIDS: 2%
- Drug Toxicity/Adverse Drug Reactions (ADRs): 13%
- Neurodegenerative Diseases (Parkinson's Disease, Alzheimer's Disease): 7%
- Cardiovascular Diseases: 9%
- Other Cancers: 28%
- Breast Cancer: 18%
- Hematological Cancers (leukemia, lymphoma, etc.): 13%
- Colorectal Cancer: 10%

Cancer Personalized Medicine Represents ~70% of the Overall Field Currently
Penetrance of Various Classes of Biomarkers into the Broader Personalized Medicine Research Space

- **Classes of Biomarkers on the Abscissa.**
- **Arrows Denote the Most-Penetrant Biomarker Classes (Gene Expression Profiles, and Protein Expression Profiles).**
Penetration of Technology Platforms into the Broader Personalized Medicine Space

- **Classes of Platforms on the Abscissa.**
- **Arrows Denote the Most-Penetrant Platforms Classes (qPCR for Gene Expression, and Protein Analyses Platforms)**
- **NGS is the New Entrant in this Space and is Expanding Rapidly**
Segmentation of the Cancer Personalized Medicine Space vis-à-vis Disease Classes Studied

- Breast Cancer: 20%
- Hematological Cancers (leukemia, lymphoma, etc.): 21%
- Lung Cancer: 7%
- Colorectal Cancer: 17%
- Prostate Cancer: 10%
- Other type of cancer: 25%

Breakout of the Field by Cancer Class
Industry Drivers of Cancer Personalized Medicine

Various Drivers at Play: The Field Resides at a Nexus of Several Disciplines and Therefore there is No One Driver per se
Challenges in the Cancer Personalized Medicine Marketplace

- Biggest Challenge in this Space to Overcome: Difficulty in Associating Specific Cancers with Defined Molecular Signature[s] → This is Changing and Therefore the Field is Advancing
- NGS is Offering Unprecedented Illumination of Somatic and Germline Mutations
Summary of these Data and Industry Trajectory

- The quantitative analysis of some elements of the cancer personalized medicine space performed by SELECTBIO presented in this report describes the industry structure and its trajectory.
- The broader personalized medicine field is evolving to include many different stakeholders which are coming together to generate diagnostics, therapeutics, medical devices, and informatics which offers tailored patient care.
- The driver of the overall personalized medicine space is cancer personalized medicine. This is at the forefront since cancer is a disease of the genome and the mutations therein are amenable to precise targeting using “targeted agents.”
  - This is where Companion Diagnostics Received its Start.
  - But now this is Expanding Beyond Cancer to Other Disease Classes.
  - As Personalized Medicine Expands it will Collide with other Disciplines such as Cellular Therapy and Regenerative Medicine—as these seek to offer Tailored Patient Care.
The Arrival of Actionable Personalized Medicine: The Age of Guided Disease Management

This Conference brings together all the Stakeholders in Personalized Medicine and seeks to frame the industry perspectives with a cross-functional program featuring the major milestones in personalized medicine, regulatory challenges, economic analysis, and presentations from the industry’s leaders.

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