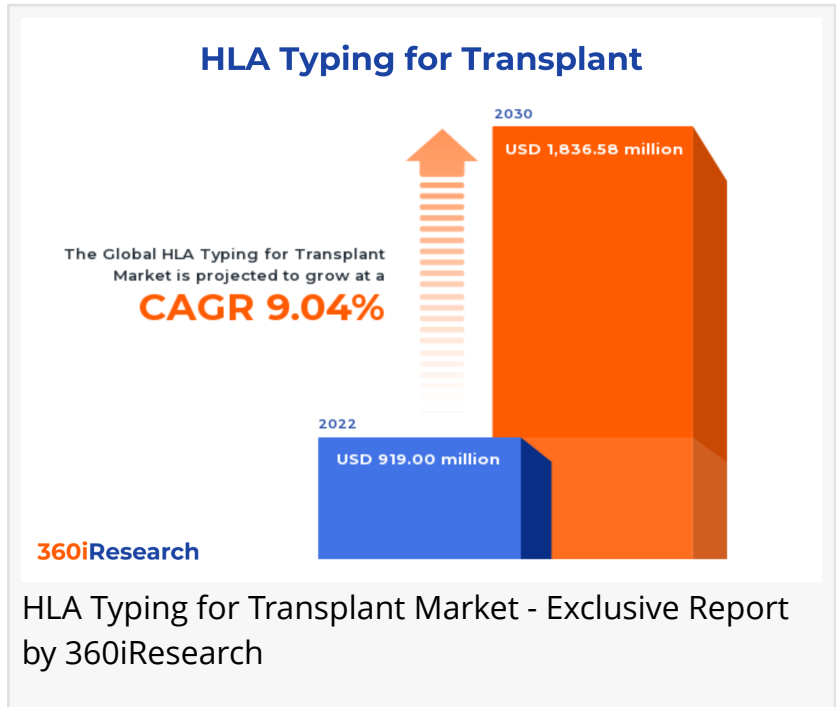


HLA Typing for Transplant Market worth \$1,836.58 million by 2030 - Exclusive Report by 360iResearch

The Global HLA Typing for Transplant Market to grow from USD 919.00 million in 2022 to USD 1,836.58 million by 2030, at a CAGR of 9.04%.

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EINPresswire.com/ -- The "[HLA Typing for Transplant Market](#) by Product & Service (Instruments, Reagents & Consumables, Software & Services), Technology (Molecular Assay Technologies, Non-Molecular Assay Technologies), Transplant Type, Application, End-User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.



The Global HLA Typing for Transplant Market to grow from USD 919.00 million in 2022 to USD 1,836.58 million by 2030, at a CAGR of 9.04%.

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Human leukocyte antigen (HLA) typing is a vital process in medicine transplant that involves identifying specific proteins on the surface of cells, known as HLA antigens. The HLA typing for the transplant is used to identify, match, and monitor compatibility between donors and recipients for organ, tissue, or stem cell transplantation. This process is crucial to ensure a successful transplant by reducing the risk of graft rejection and improving overall patient outcomes. Moreover, the rising demand for organ transplants is due to an increase in chronic diseases such as kidney failure, liver cirrhosis, heart failure, diabetes mellitus, and hematological disorders. Precision medicine advancements can lead to personalized approaches based on individual genetic makeup for improved compatibility between donors and recipients. However,

there is a need for more trained professionals performing these tests and ethical concerns surrounding organ transplantation consent policies, which restrict the growth of the Human leukocyte antigen (HLA) processes. Furthermore, technological advancements in HLA typing methods such as Next-Generation Sequencing (NGS), PCR-based techniques, and Sanger sequencing contribute to improved accuracy and a faster donor-recipient matching process. Government support through awareness campaigns promoting organ donation and investments in healthcare infrastructure further drive market expansion.

End-User: High penetration in independent reference laboratories for high-throughput capabilities and scalability

Hospitals and transplant centers form the core end-user segment for HLA typing for transplant purposes. These facilities perform tissue typing to determine compatibility between donors and recipients, ensuring successful organ or bone marrow transplants. HLA causes rapid turnaround time, high accuracy, and cost-effective solutions in HLA typing services. Independent reference laboratories provide specialized diagnostic testing services such as HLA typing to hospitals and transplant centers commercially. They are preferred due to high-throughput capabilities, scalability, and technological advancements that enhance efficiency. Research laboratories and academic institutes conduct scientific studies on transplantation biology using advanced techniques such as Next-Generation Sequencing (NGS), PCR-based methods, or Sanger sequencing for HLA typing. This segment primarily seeks innovative technologies, user-friendly platforms, and extensive support services to facilitate the seamless adoption of new methodologies.

Technology: Adoption of molecular assay technologies due to their high specificity and reproducibility

Molecular assay technologies are increasingly adopted due to their high resolution, specificity, and reproducibility. Sequence-based typing (SBT) techniques involve sequencing exon regions of HLA genes to determine the alleles present in a donor or patient sample. This method provides the highest resolution possible, allowing for precise matching between donors and recipients. In addition, Polymerase chain reaction (PCR) techniques rely on the amplification of target HLA gene regions followed by probe hybridization or restriction fragment length polymorphism (RFLP) analysis to identify specific alleles. Non-molecular assay technologies involve serological and cellular methods for HLA typing. They are primarily used when low-resolution typing is sufficient or where molecular methods may not be accessible due to cost or resource constraints. Serological techniques involve testing serum samples for the presence of specific HLA antigens using antisera obtained from previously typed individuals. Cellular assays assess the compatibility between donor and recipient immune cells by measuring their ability to respond to each other in-vitro.

Product & Service: Preference for software and services to facilitate data interpretation and managing laboratory workflow

Instruments play a crucial role in the HLA typing process as they provide accurate and efficient results for transplant compatibility testing. This includes sequencers, PCR-based instruments,

and other laboratory equipment. Reagents and consumables are essential components of the HLA typing process as they ensure reproducibility, sensitivity, specificity, and reliability of test results. This constitutes DNA amplification reagents, DNA sequencing reagents (NGS-based), kits for probe hybridization assays, microarrays/solid-phase assays, and quality control materials & standards used in laboratories. Software and services are integral to the HLA typing process as they facilitate data interpretation, reporting of results, and laboratory workflow management. The software for data analysis, database management systems, and quality assurance programs for proficiency testing are used.

Application: Use of HLA typing in diagnostic applications for organ transplantation

HLA typing is preferred for diagnostic applications to ensure compatibility between donors and recipients for organ transplantation, hematopoietic stem cell transplantation, and transfusion medicine. It helps identify suitable matches to reduce the risk of graft rejection and improve patient outcomes. HLA typing is widely used in research applications for population genetics, disease association studies, vaccine development, pharmacogenomics research, and precision medicine initiatives. In addition, it provides efficient tools to generate robust data supporting advancements in medical science.

Transplant Type: Increasing use of stem cell transplantation therapy for leukemia, lymphoma, myeloma, and immune system diseases

Organ transplantation involves replacing a damaged or non-functional organ with a healthy one from a donor. HLA typing is essential in this process to minimize the risk of graft rejection due to immune system response. Stem cell transplantation is a therapy for various blood-related disorders such as leukemia, lymphoma, myeloma, and immune system diseases. It involves transplanting healthy hematopoietic stem cells into a patient to replace damaged or dysfunctional cells. HLA typing in stem cell transplantation is vital for ensuring the compatibility of donor and recipient cells, reducing the risk of graft-versus-host disease (GVHD). Tissue transplantation involves grafting healthy donor tissues such as corneas, bone marrow, blood vessels, and skin onto a recipient to restore the function of organs or improve the quality of patient's lives.

Regional Insights:

The Human leukocyte antigen (HLA) typing for transplant market is experiencing significant growth worldwide due to technological advancements and the availability of numerous organ transplant procedures. In the United States and Canada, demand for HLA typing is increasing due to growing organ transplantation needs. The National Institutes of Health (NIH) in the U.S. has funded numerous research initiatives to improve HLA typing techniques. Moreover, the Americas human leukocyte antigen (HLA) typing market is expected to grow at a higher rate due to increasing awareness about organ transplantation among both physicians and patients, along with technological advancements leading to more accurate HLA typing results. Europe has witnessed a steady increase in demand for HLA typing services owing to factors such as an aging population that increases the prevalence of chronic diseases requiring organ transplantation. Additionally, favorable reimbursement policies have supported patients undergoing transplant

procedures in Europe. Organizations such as the Saudi Society for Organ Transplantation (SSOT) are working to increase awareness and collaborations between nations, such as the Gulf Cooperation Council (GCC) Organ Transplant Program. China, Japan, and India are witnessing an increased demand for HLA typing due to a high prevalence of genetic disorders and growing organ transplantation needs. China's National Natural Science Foundation has funded research on novel HLA typing techniques. Moreover, Japan's Ministry of Health, Labor, and Welfare supports projects such as the Japan Society for Transplantation and Cellular Therapy (JSTCT). In India, government initiatives, such as the 'National Organ and Tissue Transplant Organization (NOTTO) contribute to market growth by increasing public awareness about organ donation.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the HLA Typing for Transplant Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the HLA Typing for Transplant Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the HLA Typing for Transplant Market, highlighting leading vendors and their innovative profiles. These include Agilent Technologies, Inc., BAG Diagnostics GmbH, Becton, Dickinson, and Company, BGI Genomics Co.,Ltd., Bio-Rad Laboratories, Inc., Bio-Techne Corporation, CapitalBio Technology Co., Ltd., CareDx, Inc., CeGaT GmbH, Chugai Pharmaceutical Co., Ltd., Creative Biolabs, Inc., DiaSorin S.p.A., Eurofins Scientific SE, F. Hoffman-La Roche AG, Fujirebio, Inc. by H.U. Group Holdings, Inc., Garuda Therapeutics, GenDx by Eurobio Scientific Group, HEALIOS K.K., Hologic, Inc., Illumina, Inc., Immatics N.V., Immucor, Inc. by Werfen, S.A., ImmunOs Therapeutics AG, Invectys Inc., Laboratory Corporation of America Holdings, Lonza Group Ltd., Merck KGaA, NeoGenomics Laboratories, Inc., OraSure Technologies, Inc., Oxford Nanopore Technologies PLC, Pure MHC, LLC, Pure Protein, LLC, QIAGEN N.V., STEMCELL Technologies Inc., T-Cure Bioscience Inc., Takara Bio Inc., TBG Diagnostics Ltd., TCR² Therapeutics by Adaptimmune Therapeutics PLC, and Thermo Fisher Scientific, Inc..

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Market Segmentation & Coverage:

This research report categorizes the HLA Typing for Transplant Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Product & Service, market is studied across Instruments, Reagents & Consumables, and Software & Services. The Reagents & Consumables commanded largest market share of 51.23% in 2022, followed by Instruments.

Based on Technology, market is studied across Molecular Assay Technologies and Non-Molecular Assay Technologies. The Molecular Assay Technologies is further studied across PCR-Based Molecular Assays and Sequencing-Based Molecular Assays. The PCR-Based Molecular Assays is further studied across Real-Time PCR, Sequence-Specific Oligonucleotide-PCR, and Sequence-Specific Primer-PCR. The Sequencing-Based Molecular Assays is further studied across Next-Generation Sequencing and Sanger Sequencing. The Molecular Assay Technologies commanded largest market share of 57.88% in 2022, followed by Non-Molecular Assay Technologies.

Based on Transplant Type, market is studied across Organ Transplantation, Stem Cell Transplantation, and Tissue Transplantation. The Tissue Transplantation commanded largest market share of 36.12% in 2022, followed by Organ Transplantation.

Based on Application, market is studied across Diagnostic Applications and Research Applications. The Diagnostic Applications is further studied across Antibody Screening and Chimerism Monitoring. The Research Applications commanded largest market share of 63.23% in 2022, followed by Diagnostic Applications.

Based on End-User, market is studied across Clinical Laboratories & Research Institution, Hospitals & Transplant Centers, and Independent Reference Laboratories. The Independent Reference Laboratories commanded largest market share of 52.12% in 2022, followed by Clinical Laboratories & Research Institution.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Europe, Middle East & Africa commanded largest market share of 39.37% in 2022, followed by

Americas.

Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. HLA Typing for Transplant Market, by Product & Service
7. HLA Typing for Transplant Market, by Technology
8. HLA Typing for Transplant Market, by Transplant Type
9. HLA Typing for Transplant Market, by Application
10. HLA Typing for Transplant Market, by End-User
11. Americas HLA Typing for Transplant Market
12. Asia-Pacific HLA Typing for Transplant Market
13. Europe, Middle East & Africa HLA Typing for Transplant Market
14. Competitive Landscape
15. Competitive Portfolio
16. Appendix

The report provides insights on the following pointers:

1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets
3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

1. What is the market size and forecast of the HLA Typing for Transplant Market?
2. Which are the products/segments/applications/areas to invest in over the forecast period in the HLA Typing for Transplant Market?
3. What is the competitive strategic window for opportunities in the HLA Typing for Transplant Market?
4. What are the technology trends and regulatory frameworks in the HLA Typing for Transplant Market?
5. What is the market share of the leading vendors in the HLA Typing for Transplant Market?

6. What modes and strategic moves are considered suitable for entering the HLA Typing for Transplant Market?

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