

Immuno-Oncology Market Size to Grow at 22.7% CAGR Through 2032, Reports Persistence Market Research

The immuno-oncology market grows with advances in checkpoint inhibitors, CAR-T therapies, and precision medicine, driving improved cancer treatment outcomes.

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/EINPresswire.com/ -- The global [immuno-oncology market](#) is witnessing transformational growth, driven by a paradigm shift in cancer treatment strategies from conventional methods to immune-based therapies. Valued at

US\$56.8 billion in 2025, the market is forecasted to surge to US\$246.5 billion by 2032, expanding at a robust CAGR of 22.7% during the forecast period. This explosive growth is primarily attributable to advancements in immune checkpoint inhibitors, the rising prominence of CAR-T cell therapies, and the accelerating integration of personalized cancer vaccines.

Key trends shaping the market include the rapid adoption of combination therapies targeting PD-1/PD-L1 pathways, biomarker-driven precision medicine, and an uptick in clinical trials focused on new indications. Immuno-oncology therapies are increasingly becoming part of frontline treatment protocols, with robust clinical evidence supporting their efficacy and safety profiles. As cancer incidence continues to rise globally—particularly in emerging economies—the market is entering a phase of accelerated commercialization and geographic expansion.

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Key Industry Highlights

Lung cancer will lead the market by disease type, commanding a 20.7% share in 2025 due to its high prevalence and expanding screening programs. Meanwhile, prostate cancer will emerge as the fastest-growing segment, propelled by an aging population and better detection



technologies.

On the treatment front, immune checkpoint inhibitors will dominate with a 40.8% market share in 2025, establishing themselves as cornerstone therapies. North America will remain the leading regional market, with a 43.2% share, while Asia Pacific is projected to exhibit the highest CAGR of over 12% through 2032, owing to growing healthcare access and cancer awareness.

Market Dynamics

Driver – Growing Global Cancer Burden to Accelerate Market Expansion

The increasing global cancer burden remains the single most critical driver behind the rise of immuno-oncology. According to the IARC, 20 million new cancer cases were diagnosed in 2022, with nearly 9.7 million deaths. The American Cancer Society projects 1.9 million new diagnoses in the U.S. annually. These statistics underscore the need for more effective therapies with durable responses and fewer side effects—core benefits of immuno-oncology.

The deployment of predictive biomarkers and companion diagnostics has further sharpened the efficacy of immunotherapies, ensuring targeted treatment that minimizes toxicity. This integration of personalized medicine is enhancing outcomes and catalyzing deeper investment in next-generation immune-oncology research.

Restraint – High Treatment Costs Limiting Accessibility

Despite clinical success, the prohibitive cost of immuno-oncology treatments is a major constraint. Therapies like nivolumab and pembrolizumab can exceed US\$15,000 per month, significantly outpacing traditional oncology treatments. This cost burden not only strains payer systems but also restricts access for patients in low- and middle-income countries.

Moreover, the advanced manufacturing and logistical challenges associated with personalized treatments such as CAR-T therapies add further complexity. Limited infrastructure for biomarker diagnostics in emerging markets compounds the challenge, potentially slowing the pace of global adoption.

Opportunity – Advances in Precision Medicine Driving Innovation

Precision medicine represents a transformative opportunity in immuno-oncology. Innovations in next-generation sequencing, AI-driven analytics, and biomarker profiling are enabling more accurate patient selection and treatment response prediction. These tools are enhancing trial design, expediting drug development, and improving treatment outcomes.

Regulatory agencies are also increasingly supportive. The FDA's 2024 accelerated approval of BIZENGRI® for NRG1 fusion-positive cancers exemplifies how precision-targeted therapies are rapidly entering clinical use. As companies focus on molecularly targeted immunotherapies, the

market is shifting from broad-spectrum to highly individualized approaches, significantly boosting its long-term potential.

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Category-wise Analysis

Treatment Type Insights

Immune checkpoint inhibitors will remain the dominant treatment category, accounting for around 41% of revenue in 2025. These agents, by inhibiting PD-1, PD-L1, or CTLA-4 pathways, allow immune T-cells to attack tumors more effectively. Drugs such as pembrolizumab and nivolumab have become mainstays in the treatment of lung, melanoma, and kidney cancers, thanks to sustained clinical success and broad FDA indications.

CAR-T cell therapy is forecasted to be the fastest-growing segment, with a CAGR of 21.5%. Recent breakthroughs, including a case published in The New England Journal of Medicine showing complete remission in a CAR-positive lymphoma patient, highlight the enormous potential of this segment. Advances in manufacturing scalability and safety protocols are further accelerating clinical adoption and investment.

Disease Type Insights

Lung cancer, with its widespread prevalence and high mortality rate, will dominate the disease segmentation. Enhanced early detection and advances in immunotherapy have reshaped the treatment landscape for advanced non-small cell lung cancer (NSCLC), supporting strong market traction.

Prostate cancer is anticipated to grow rapidly, driven by demographic shifts and increased use of immunotherapies like sipuleucel-T. Research is ongoing into combining checkpoint inhibitors with hormone therapy to improve outcomes in metastatic and hormone-resistant cases, supporting the robust expansion of this segment.

Regional Insights

North America Market Overview

North America will hold the largest regional share of 43.2% in 2025, underpinned by high cancer prevalence, rapid innovation cycles, and strong regulatory support. The presence of major biopharma players, such as Bristol Myers Squibb, Merck, and Pfizer, as well as leading cancer research centers, sustains a robust R&D pipeline.

The U.S. benefits from a mature reimbursement ecosystem and swift regulatory pathways, including FDA's Breakthrough Therapy and Priority Review designations. The adoption of combination immunotherapies and the rise of companion diagnostics are further enhancing the treatment paradigm.

Asia Pacific Market Overview

Asia Pacific is poised to be the fastest-growing regional market, with a CAGR of approximately 13% through 2032. Key drivers include rising cancer incidence, expanding healthcare infrastructure, and government incentives supporting biopharmaceutical innovation.

China and India are at the forefront, deploying national cancer registries and screening programs. Regulatory bodies are also moving towards faster approval processes for critical therapies. A surge in local clinical trials and cross-border collaborations with global pharma companies are positioning the region as a future hub for oncology innovation.

Europe Market Overview

Europe benefits from well-established healthcare systems and sustained support for cancer research. Countries like Germany, France, and the U.K. are expanding access to advanced therapies through EMA approvals and national health service funding. EU-wide regulatory alignment is enhancing market accessibility for developers, while public-private partnerships are boosting translational research.

Competitive Landscape

The global immuno-oncology landscape is characterized by aggressive competition and continuous innovation. Leading companies are deeply invested in refining checkpoint inhibitors, CAR-T cell platforms, and novel therapeutic modalities.

The rise of artificial intelligence in drug discovery, alongside machine learning-based predictive modeling, is streamlining R&D workflows. Combination regimens to combat immunotherapy resistance are also driving competitive intensity. Strategic partnerships, such as the 2025 collaboration between BioNTech and Bristol Myers Squibb, are reshaping the development ecosystem.

Key Players in the Market:

Bristol-Myers Squibb Company

Merck & Co., Inc.

Pfizer Inc.

Roche Holding AG

Novartis AG

Johnson & Johnson Services, Inc.
AstraZeneca PLC
AbbVie Inc.
BioNTech SE
Gilead Sciences, Inc.

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Market Segmentation

By Treatment Type:

Immune Checkpoint Inhibitors
CAR-T Cell Therapy
Cancer Vaccines
Monoclonal Antibodies
Oncolytic Virus Therapies

By Disease Type:

Lung Cancer
Melanoma
Prostate Cancer
Colorectal Cancer
Hematologic Malignancies
Others

By End-user:

Hospitals
Cancer Research Centers
Specialty Clinics

Academic Institutes

Recent Developments

In August 2025, the combination of Padcev and Keytruda became the first systemic regimen to significantly improve survival in cisplatin-ineligible bladder cancer patients, establishing a new standard of care.

In July 2025, AbbVie entered a US\$1.9 billion licensing agreement with Ichnos Glenmark Innovation for ISB 2001, a trispecific T-cell engager showing high response rates in multiple

myeloma patients.

In June 2025, Sanofi acquired Blueprint Medicines in a US\$9.1 billion deal, bolstering its rare disease and immunology pipeline with the addition of Ayvakit and other assets.

Future Outlook

The immuno-oncology market is set to enter a transformative phase, with strong tailwinds from scientific breakthroughs, favorable regulatory policies, and global demand for more targeted and effective cancer therapies. The shift toward precision oncology, integration of real-world evidence in therapy development, and enhanced focus on affordability and access are likely to shape the next decade.

With market valuations projected to exceed US\$246.5 billion by 2032, stakeholders across the value chain—including pharmaceutical companies, regulators, healthcare providers, and payers—must collaborate to address pricing challenges, scale innovative treatments, and ensure equitable patient access across geographies.

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