Renal Biomarkers - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Renal Biomarkers Market size is estimated at USD 1.33 billion in 2024, and is expected to reach USD 1.9 billion by 2029, growing at a CAGR of 7.29% during the forecast period (2024-2029).

Due to the COVID-19 pandemic, the footfall in hospitals and diagnostic centers initially decreased significantly, and many studies reported that people with comorbidity had higher chances of contracting severe COVID-19, which further led to a decrease in the tests and treatment procedures for kidney diseases. For instance, according to a research study published in January 2022, by Brogan M. et, al., patients with severe chronic kidney disease (CKD) had a higher mortality rate than those without CKD, and approximately half survived after 28 days. Thus, during the pandemic, the studied market was severely impacted. However, since the lockdown restrictions were lifted, the market has been recovering well. The emergence of COVID-19 led to new research in the area of biomarkers for the detection of the severity of COVID-19 in patients, which is further anticipated to augment the market's growth as new investments will be made in the area of research and development of renal biomarkers. For instance, in May 2021, a study was published in the Scientific Reports Journal that demonstrated the role of urine biomarkers in predicting mortality in SARS-CoV-2 infected patients. These ongoing studies have spurred research in this space for the discovery of novel biomarkers, which are expected to augment market growth.

The key factors propelling the growth of this market are the rising prevalence of various kidney-related diseases, the high prevalence of diabetes and high blood pressure, which are the leading causes of renal diseases, and rapid technological advancements in the field of genetics. According to the article published in Kidney International Supplements in April 2022, approximately 10% of the global population suffers from chronic kidney disease, and millions die each year. The rate of patients with chronic kidney disease is increasing. Additionally, the risk of diabetes-related chronic kidney diseases was much higher in Asian countries than in Western countries. For instance, according to the International Diabetes Federation report published in

2021, the estimated number of diabetes patients in 2021 was 74,194.7 thousand, and the number is expected to reach 92,973.7 thousand by 2030 in India. Thus, the growing prevalence of kidney diseases and their relative causes is expected to increase demand for their diagnosis, thereby boosting the growth of the biomarkers over the forecast period.

Advancements in the field of genetic technology during the last decade have enlightened people's knowledge regarding genetic regulatory pathways related to renal biomarkers. Due to rapid advances in genomic technologies, genetic analysis has become essential in clinical practice and research. Moreover, with the development of computer technology, renal biomarker testing has become widely accessible and feasible to perform, even in small-sized laboratories. Recent advances in genetics have created opportunities to study kidney disease on a variety of platforms applied to human populations. Renal biomarkers can also be integrated into genetic-level technological advancements for detecting, diagnosing, and treating kidney diseases. These rapid advances in genetics led to the development of more advanced renal biomarkers for treating kidney diseases, which ultimately drove the market.

Additionally, strategic activities by market players, such as partnerships, mergers and acquisitions, and product launches, are expected to propel the market's growth. For instance, in April 2021, Renalytix AI expanded its collaboration with the Joslin Diabetes Center to include new biomarkers for kidney disease found by the center's researchers in the company's KidneyIntelX platform. In February 2021, BioMerieux announced the CE marking of an innovative NEPHROCHECK assay to detect kidney stress in patients at risk of acute kidney injury (AKI).

Thus, due to the aforementioned factors, such as the growing burden of kidney diseases and strategic activities by market players, the renal biomarkers market is expected to grow at a significant rate during the forecast period. However, regulatory and reimbursement system issues may hamper the market's growth over the forecast period.

Renal Biomarkers Market Trends

Serum Creatinine from Functional Biomarker is Expected to Hold a Significant Market Share

Serum creatinine is the most widely used laboratory test for kidney function and is used to derive the eGFR (estimated glomerular filtration rate) as an indicator of kidney function. It is also used as an ideal indicator for the determination of chronic kidney diseases. The creatinine concentration in blood is inversely proportional to the glomerular filtration rate (GFR), which is an ideal marker of kidney function. Unfortunately, measuring GFR is time-consuming, and therefore, GFR is usually estimated from equations that take into account endogenous filtration markers like serum creatinine (sCr).

The growing incidence of chronic kidney disease and the growing number of launches and advancements in serum creatinine tests are boosting the market growth. According to the National Kidney Foundation, by 2021, 10% of the population worldwide will be affected by chronic kidney disease (CKD). The large patient population increases the use of serum creatinine for diagnosis and prognosis of kidney diseases, boosting segment growth.

Additionally, product launches by the market players are expected to support the market's expansion over the forecast period. For instance, in March 2022, in the European Union, Nova Biomedical introduced the CE-marked Nova Max Pro creatinine/eGFR meter system. Nova Max Pro is intended to improve renal care by evaluating kidney function and detecting kidney disease early in out-of-hospital settings. In 30 seconds, the meter and creatinine biosensor assess blood creatinine and estimate the glomerular filtration rate from a 1.2-liter capillary fingerstick blood sample. The Nova StatSensor Creatinine technology is used in the measurement.

Thus, all the above-mentioned factors, such as the growing prevalence of kidney diseases, are expected to propel the growth of the segment over the forecast period.

North America is Expected to Hold a Significant Share in the Market and Expected to do Same in the Forecast Period

North America currently holds a significant share of the market for renal biomarkers, and it is expected to continue its stronghold over the forecast period. In the North American region, the United States holds the largest market share. In the past decade, there has been a significant increase in the number of US FDA-approved drug labels containing information on molecular biomarkers. Almost every pharmaceutical company has been developing molecular biomarker programs, either through partnerships or other ventures.

The rising prevalence of chronic kidney disorders among people in the United States is a major factor attributed to the increasing usage of renal biomarkers for effective diagnosis and to boost the market growth in this region. For example, the Centers for Disease Control and Prevention (CDC) published in 2021 that more than 1 in 7 people-nearly 37 million people in the United States are estimated to have chronic kidney disease (CKD). Additionally, the increasingly vulnerable aging population that is prone to chronic kidney diseases in the United States is also contributing to the rising demand for early-stage diagnosis and effective treatment, thereby contributing to the growth of the market. For instance, in 2021, the Centers for Disease Control and Prevention (CDC) published that chronic kidney diseases were the most common in people aged 65 years or older and contributed to 38% of the affected population in the United States.

Furthermore, the strategic initiatives taken by market players, such as the launches of biomarker diagnostic tests for detecting kidney diseases and growing partnerships, mergers, and acquisitions in the country, are also expected to boost the market. For instance, in November 2022, BioPorto, a Danish diagnostic startup, submitted its test for acute kidney injury (AKI) to the US Food and Drug Administration for de novo certification, with a US launch scheduled for 2023. The test detects the presence of neutrophil gelatinase-associated lipocalin (NGAL), a biomarker linked to AKI, in a patient's urine or plasma.

In March 2022, Aravive Inc. demonstrated positive results from the Phase 1b/2 trial of batiraxcept in clear cell renal cell cancer (ccRCC) and a biomarker-high subgroup. Therefore, such clinical trials will boost the development of biomarker tests in the country. This will subsequently drive market growth. Thus, owing to the aforementioned factors, the studied market is expected to grow significantly during the forecast period.

Renal Biomarkers Industry Overview

The renal biomarkers market is highly competitive and consists of several major players, along with multiple smaller companies. However, with technological advancements and product innovations, mid-size to smaller companies are increasing their market presence by introducing new technologies at affordable prices. Companies like Thermofisher Scientific, Abbott Laboratories, Siemens Healthineers AG, F. Hoffmann-La Roche Ltd, and BioMerieux hold substantial shares in the market.

Additional Benefits:

  The market estimate (ME) sheet in Excel format
 3 months of analyst support

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