

**Saudi Arabia Life Science Tools Market Assessment,  
By Type [Instruments, Consumables, Services] By  
Technology [Genomics, Proteomics, Cell Biology  
Technology, Lab Supplies, Other Analytical & Sample  
Preparation Technology], By Product [Cell Culture  
Systems & 3D Cell Culture, Liquid Chromatography,  
Mass Spectrometry, Flow Cytometry, Cloning &  
Genome Engineering, Microscopy, Next Generation  
Sequencing, PCR & qPCR, Nucleic Acid Preparation,  
Nucleic Acid Microarray, Sanger Sequencing,  
Transfection Device & Gene Delivery Technologies,  
Nuclear Magnetic Resonance, Others], By End-user  
[Healthcare, Government & Academic Institutions,  
Biopharmaceutical Company, Industrial Applications,  
Others], By Region, Opportunities and Forecast,  
2016-2030F**

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## **Abstracts**

Saudi Arabia Life Science Tools market size was valued at USD 2.42 billion in 2022 and is expected to reach USD 4.13 billion in 2030 with a CAGR of 6.91% for the forecast period between 2023 and 2030. The life science tools market in Saudi Arabia has been witnessing significant growth and offers promising opportunities for companies operating in the sector. The country's focus on upgrading its healthcare infrastructure,

promoting research and development activities, and fostering innovation have contributed to the expansion of the market.

The biotechnology and pharmaceutical sectors have experienced substantial growth, driven by growing investments, increasing adoption of life sciences tools & techniques, government initiatives and technological advancements. This growth has translated into a growing need for life science tools, including laboratory equipment, consumables, and analytical instruments. The demand for advanced tools and technologies to support drug discovery, clinical research, and manufacturing processes is particularly notable. Genomics and precision medicine are emerging fields in Saudi Arabia, with a focus on personalized medicine and molecular diagnostics. The adoption of genomics tools, such as next-generation sequencing platforms and gene editing technologies, is gaining momentum. Additionally, there is a growing interest in bioinformatics solutions to analyze and interpret genomic data.

#### Increasing Adoption of Next-Generation Sequencing

The adoption of next-generation sequencing (NGS) technology in Saudi Arabia has been on the rise, driven by various factors including advancements in genomics research, personalized medicine, and the growing need for improved diagnostic capabilities. NGS technology has revolutionized genomics research by enabling rapid and cost-effective sequencing of large amounts of DNA and RNA. Saudi Arabia has seen a significant increase in genomics research initiatives, particularly in the areas of genetic disease studies, population genomics, and cancer genomics.

NGS allows researchers to analyze the entire genome or targeted regions, uncovering genetic variations and providing insights into disease mechanisms and potential therapeutic targets. Saudi Arabia has a high prevalence of inherited genetic disorders, such as autosomal recessive disorders like sickle cell anemia and thalassemia. NGS allows for efficient screening and diagnosis of these disorders, facilitating early intervention and genetic counseling. The technology enables the identification of disease-causing mutations and carrier status in individuals and families, supporting preventive measures and family planning.

Thermo Fisher Scientific Inc. completed the acquisition of Mesa Biotech Inc., a company specializing in molecular diagnostics at the point of care in February 2021. Thermo Fisher Scientific Inc. intends to leverage its expertise in operations, raw material accessibility, and established distribution and sales channels, along with Mesa's cutting-edge platform. The goal is to expand manufacturing capacity quickly,

achieve cost savings, and expedite the availability of crucial diagnostics in the market on a larger scale.

### Introduction of Novel and Advanced Techniques

Saudi Arabia has seen the introduction of advanced diagnostic tools such as molecular diagnostic platforms, advanced imaging systems, and high-throughput screening technologies. These innovations enable faster and more accurate diagnoses, aiding in the detection and management of diseases. The field of genomic medicine has gained momentum in Saudi Arabia, with innovative tools and technologies being utilized for genetic testing, precision medicine, and personalized healthcare. NGS platforms and bioinformatics solutions have enabled researchers and clinicians to analyze and interpret genomic data more effectively.

Automation and robotics technologies have been integrated into the life science tool market. Automated liquid handling systems, robotic sample preparation, and high-throughput screening platforms have enhanced efficiency, reproducibility, and throughput in laboratories, supporting research and drug discovery efforts. Digital pathology solutions have emerged, allowing for remote access and analysis of histopathological samples. Whole slide imaging and telepathology platforms enable pathologists to collaborate, share expertise, and provide accurate diagnoses from different locations, leading to improved patient care.

In May 2022, PerkinElmer Genomics announced the launch of ultrarapid whole genome sequencing (urWGS) services. This new offering enables physicians to obtain comprehensive and meaningful results within a five-day timeframe, facilitating informed clinical management and enhancing outcomes for critically ill patients in neonatal and pediatric intensive care units. By reducing the time required for an accurate diagnosis, this advancement holds the potential to eliminate unnecessary procedures, initiate timely treatment, and ultimately improve clinical outcomes, particularly for patients with chronic and progressive genetic diseases.

### The Field of Genomics has Gained Momentum

The Saudi Arabian government has recognized the importance of genomics in healthcare and has actively promoted its integration. National programs, such as the Saudi Human Genome Program, have been established to advance genomics research and facilitate the application of genomic knowledge in clinical practice. There has been a surge in genomics research activities across various institutions and universities in

Saudi Arabia. Researchers are conducting studies focused on identifying genetic variations, understanding the genetic basis of diseases prevalence in the population, and exploring the potential of genomics in personalized medicine.

With the utilization of advanced genomic technologies, the primary objective is to decrease the occurrence of genetic diseases. The growing awareness and recognition in the field of genomics is improving healthcare outcomes thus propelling its momentum in Saudi Arabia. The integration of genomics into clinical practice, including genetic testing and personalized medicine approaches, has gained acceptance and is increasingly being implemented in various parts of the country.

### Technological Advancements

Saudi Arabia has witnessed significant technological advancements in the field of life science tools, contributing to advancements in research, diagnostics, and healthcare. Due to its prosperous economy, expanding population, substantial investments in healthcare and life sciences, and the prevalence of diseases like diabetes, Saudi Arabia presents an enticing market for pharmaceutical and biotechnology companies. Saudi Arabia has embraced advanced molecular diagnostic technologies. Polymerase chain reaction (PCR) techniques, including real-time PCR and digital PCR, are widely used for the detection of genetic variations, infectious agents, and disease markers. These technologies enable accurate and rapid diagnosis, leading to improved patient care and management.

In 2022, a scientific research project was carried out to compare RT-PCR and multiplex real-time RT-PCR. RT-PCR has certain limitations, including the potential for false-negative or false-positive outcomes and the cost of the test. To address and reduce these limitations, multiplex real-time RT-PCR was developed, enabling the simultaneous targeting of multiple genes.

### Impact of COVID-19

The COVID-19 pandemic has had a profound impact on the life science tools market in Saudi Arabia. The country witnessed a surge in demand for various life science tools and equipment due to the urgent need for diagnostic testing, research, and healthcare management related to the pandemic.

One significant impact has been the increased demand for diagnostic tools, including PCR testing kits, antigen tests, and related equipment. The Saudi Arabian government

and healthcare institutions have invested heavily in expanding testing capabilities to identify and monitor COVID-19 cases, leading to a substantial rise in the demand for life science tools used in diagnostic testing. Additionally, the pandemic has accelerated research and development efforts, particularly in the areas of genomics and vaccine development. There has been a heightened demand for next-generation sequencing (NGS) platforms, bioinformatics tools, and laboratory automation systems to support research on the virus, its variants, and potential treatments.

### Key Players Landscape and Outlook

The market for life science tools in Saudi Arabia is characterized by its dynamism and steady growth. In the years ahead, the market is expected to maintain its upward trajectory. Key market players are actively engaged in the development of groundbreaking products and services, while also seeking to expand its operations in Saudi Arabia. The government is also actively participating for the growth of life sciences market by launching initiatives such as “Saudi Human Gene Program”.

The outlook for the Saudi Arabia life science tools market is promising, with sustained growth expected in the coming years. Key players are poised to leverage their expertise and resources to develop innovative products, expand their market reach, and forge collaborations. These efforts will contribute to the advancement of research, diagnostics, and healthcare in Saudi Arabia, creating new opportunities and driving the overall growth of the life science tools market.

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\*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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