

Live Cell Imaging Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global live cell imaging market size reached US\$ 2.1 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 3.5 Billion by 2028, exhibiting a growth rate (CAGR) of 8.9% during 2022-2028. The escalating demand due to its operational efficiency in studying proteins, rising innovations made in medical research to develop novel drugs, and the growing prevalence of various chronic diseases due to the adoption of sedentary lifestyles represent some of the key factors driving the market.

Live cell imaging refers to the examination of dynamic living cells in their growth medium that change over time. It comprises detailed protocols and techniques to culture cells on the microscope stage and maintains a constant focal plane to follow cellular processes in real time. It relies on phase contrast microscopy and brightfield to illuminate the cell culture and examine various cell organelles, such as plastids, mitochondria, centrosomes, endoplasmic reticulum, and ribosomes. It is influenced by imaging modality, media, temperature, humidity, pH, osmolarity, and photon dose, which are essential for maintaining cellular health. Live cell imaging also allows monitoring of cell fusion events, determining the mobility of molecules by using fluorescence recovery after photobleaching (FRAP) and measuring various modifications, such as growth or aging of condensate over a period. It provides essential cellular data through the visualization of transient events that are often missed in endpoint assays and revealing optimal time points. It is often utilized to examine the fertilization process, cellular development, cell signaling process, and cell differentiation. Furthermore, as live cell imaging provides accurate information on cell cultures, it is utilized by biologists, pharmacologists, and toxicologists around the world.

Live Cell Imaging Market Trends:

At present, the escalating demand for live cell imaging due to its operational efficiency

in studying proteins and a wide variety of molecular interactions represents one of the primary factors influencing the market positively. Besides this, there is a rise in the number of innovations made in medical research to develop novel drugs and therapies to treat various life-threatening conditions in individuals. This, coupled with the growing prevalence of various chronic diseases due to the adoption of sedentary lifestyles, is offering a favorable market outlook. In addition, the increasing utilization of high-content screening (HCS) to make drug development processes time and cost-efficient and reduce toxicity is propelling the growth of the market. Apart from this, the rising number of investments made by governing agencies of various countries to improve healthcare infrastructure and develop advanced surgical procedures to provide effective treatment to patients is contributing to the growth of the market. Additionally, the increasing employment of live cell imaging in research laboratories to maintain cell viability is bolstering the market growth. Furthermore, key market players are developing live cell imaging techniques with various enhanced features in camera technology, sensitivity, and pixel density.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global live cell imaging market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on product, application and technology.

Product Insights:

Equipment

Consumable

Software

The report has provided a detailed breakup and analysis of the live cell imaging market based on the product. This includes equipment, consumable, and software. According to the report, equipment represented the largest segment.

Application Insights:

Cell Biology

Developmental Biology

Stem Cell and Drug Discovery

Others

A detailed breakup and analysis of the live cell imaging market based on the application has also been provided in the report. This includes cell biology, developmental biology, stem cell and drug discovery, and others. According to the report, cell biology accounted for the largest market share.

Technology Insights:

Time-Lapse Microscopy

Fluorescence Recovery after Photobleaching (FRAP)

Fluorescence Resonance Energy Transfer (FRET)

High Content Screening (HCS)

Others

A detailed breakup and analysis of the live cell imaging market based on the technology has also been provided in the report. This includes time lapse microscopy, fluorescence recovery after photobleaching (FRAP), fluorescence resonance energy transfer (FRET), high content screening (HCS), and others. According to the report, fluorescence recovery after photobleaching (FRAP) accounted for the largest market share.

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets that include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (the United Kingdom, Germany, France, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and Middle East and Africa. According to the report, North America was the largest market for live cell imaging. Some of the factors driving the North

America live cell imaging market included rising investments made by governing agencies, increasing occurrence of cancer among the masses, the growing initiatives in drug discovery, etc.

Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global live cell imaging market. Competitive analysis such as market structure, market share by key players, player positioning, top winning strategies, competitive dashboard, and company evaluation quadrant has been covered in the report. Also, detailed profiles of all major companies have also been provided. Some of the companies covered include Becton Dickinson and Company (BD), Carl Zeiss AG, Leica Microsystems (Danaher Corporation), Merck KGaA, Nikon Instruments Inc., Olympus Corporation, PerkinElmer Inc., Thermo Fisher Scientific Inc., etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report

1. What was the size of the global live cell imaging market in 2022?
2. What is the expected growth rate of the global live cell imaging market during 2023-2028?
3. What are the key factors driving the global live cell imaging market?
4. What has been the impact of COVID-19 on the global live cell imaging market?
5. What is the breakup of the global live cell imaging market based on the product?
6. What is the breakup of the global live cell imaging market based on the application?
7. What is the breakup of the global live cell imaging market based on the technology?
8. What are the key regions in the global live cell imaging market?
9. Who are the key players/companies in the global live cell imaging market?

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