

Oxidative Stress Assay Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 110 pages | Mordor Intelligence

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Report description:

The Oxidative Stress Assay Market is projected to register a CAGR of 9% during the forecast period (2022-2027).

Amidst COVID-19, the oxidative stress assay market is expected to grow due to the increasing investment in research and development activities across the globe. According to the article titled "Metabolic Implications of Oxidative Stress and Inflammatory Process in SARS-CoV-2 Pathogenesis: Therapeutic Potential of Natural Antioxidants" published in May 2021, oxidative stress and inflammation are intertwined processes that play a vital role in disease progression and response to therapy via interference with multiple signaling pathways. The redox status of a host cell is an important factor in viral entry due to the unique conditions required for the conformational changes that ensure the binding and entry of a virus into the host cell. Such studies demonstrate how oxidative stress assays can be useful in finding COVID-19 progression and may propel the growth of the market over the coming years.

The rapid growth in the biopharmaceutical and biotechnology industries and the increase in chronic disorders are among the major factors expected to drive the growth of the oxidative stress assay market. According to the Center for Disease Control and Prevention (CDC) May 2022 update, six in ten adults in the United States have a chronic disease, and four in ten adults have two or more. Such a high prevalence of chronic diseases increased the demand for oxidative stress assays owing to the increased efficacy and precision of the results as chronic disorders result in an imbalance in oxidant and antioxidant levels.

Additionally, the increasing research studies to widen the application of the oxidative stress assay in different diseases is also propelling the growth of the market. For instance, the article titled "Targeting Reactive Oxygen Species Capacity of Tumor Cells with Repurposed Drug as an Anticancer Therapy" published in September 2021 reported that as concentrations increased, Reactive Oxygen Species (ROS) paradoxically influenced cancer development, either triggering tumorigenesis or supporting the

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proliferation of cancer cells at moderate levels of ROS or causing cancer cell death at high levels of ROS. Thus, ROS can be considered an attractive target for the therapy of cancer. It also reported that the use of ROS-based repurposed drugs may be one of the promising ways to overcome current cancer treatment challenges. Such research studies could lead to the development of new products and increasing applications in cancer diagnostics and therapeutics and hence may drive the growth of the market in the near future.

Therefore, due to the aforesaid factors, the market is expected to project growth over the forecast period. However, the high cost of equipment and the lack of trained personnel to handle the equipment may hamper the market's growth.

Oxidative Stress Assay Market Trends

The Pharmaceutical and Biotechnology Industries Segment is Expected to Hold a Major Market Share in the Oxidative Stress Assay Market.

By end user, the pharmaceutical and biotechnology industries segment is anticipated to garner the largest share of the market. The sudden outbreak of COVID-19 has increased the demand for oxidative stress assays as these products play a major role in the research and development of the pharmaceutical and biotechnology industries. The surge in research and development investments in the pharmaceutical and biotechnology industries is expected to boost the segment's growth since oxidative stress assays are widely used in the product development process. For instance, the data published by the Organisation for Economic Development and Co-operation (OECD) in 2021 reported that research and development investment intensity in the pharmaceutical and biotechnology sectors in the United States surpassed the 3% milestone, while in China it was 2.1% to 2.2% from the past year. The report also stated that Europe experienced a more modest increase of 2.1 percent in research and development expenditure.

Additionally, the approval of products by the regulatory authorities and the launch of newer products are also contributing to the growth of the segment. For instance, in June 2022, AMSBIO expanded its range of antibodies, biomarkers, and assay kits related to free radicals (ROS and RNS), non-radical reactive derivatives (or oxidants), and antioxidants for researchers investigating the mechanism of oxidative stress.

Considering these factors, the pharmaceutical and biotechnology industry segment is expected to hold the major market share as they employ a significant number of oxidative stress assay products for the R&D of newer disease diagnoses.

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

The ever-increasing demand from biopharma and biotechnology companies in this region is expected to drive the growth of the oxidative stress assay market in North America. Moreover, the increase in the adoption of technologically advanced equipment and the presence of more experienced professionals is expected to propel the market growth in this region. Also, the increasing launches of new products by biopharma companies is a contributing factor to the growth of the market as oxidative stress assays play a crucial role in biopharmaceutical production.

Additionally, an upsurge in investment in research and development in the biotechnology sector in the United States is a major contributing factor to the growth of the oxidative stress assay market in this region. For instance, California-based Amgen Inc. invested heavily in its research and development activities and its expenditure for research and development was USD 4.8 billion, USD 4.2 billion, and USD 4.1 billion for 2021, 2020, and 2019, respectively.

Additionally, the strategic initiatives taken by the market players are also propelling the growth of the market. For instance, in July 2021, Immuchrom GmbH signed a partnership agreement with Ilex Life Sciences for North American distribution of gastrointestinal

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biomarker assays. Immuchrom is a German developer and manufacturer of HPLC applications, photometric assays, and immunoassays, specializing in areas of gastrointestinal disease, the cardiovascular system, oxidative stress, and calcium and bone metabolism. Such initiatives are also boosting the growth of the market.

Thus, considering all these factors, North America is expected to hold a major share in the oxidative stress market.

Oxidative Stress Assay Market Competitor Analysis

The oxidative stress assay market is fragmented and consists of several major players. In terms of market share, a few of the major players are currently dominating the market. Some companies currently dominating the market are Abcam Plc, AMSBIO, Biovision Inc, Cell Biolabs, Inc, Enzo Life Sciences, Inc, Merck KGaA, Immunochemistry Technologies, Promega Corporation, Qiagen, Thermo Fisher Scientific, and others.

Additional Benefits:

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

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