

Gene Expression Market - Global Industry Size, Share, Trends, Opportunity, & Forecast, Segmented By Process (Sample Collection, Purification, cDNA synthesis & conversion, PCR Analysis, Data analysis & interpretation), By Product (Kits & Reagents, DNA Chips, Others), By Capacity (Low- to Mid- Plex, High-Plex), By Application (Drug Discovery & Development, Clinical Diagnostics, Biotech & Microbiology, Others), By Technique (RNA Expression, Promoter Analysis, Protein Expression & Posttranslational Modification Analysis), By Region and Competition, 2020-2030F

Market Report | 2025-11-27 | 185 pages | TechSci Research

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Report description:

Market Overview

The Global Gene Expression Market, valued at USD 15.78 Billion in 2024, is projected to experience a CAGR of 5.58% to reach USD 21.86 Billion by 2030. Gene expression delineates the fundamental cellular process whereby genetic information from DNA is converted into functional gene products, primarily proteins or RNA molecules, thereby dictating specific cellular attributes and functions. The market's expansion is significantly propelled by continuous advancements in genomic research and sequencing technologies, the escalating global incidence of chronic and infectious diseases necessitating precise diagnostic and prognostic tools, and growing investments in biopharmaceutical research and development for novel therapeutic discovery.

Key Market Drivers

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The global gene expression market is significantly influenced by continued advancements in genomics and biotechnology, which serve as foundational catalysts for innovation. These developments encompass sophisticated sequencing technologies, refined gene editing tools such as CRISPR, and comprehensive omics approaches, all of which enhance the depth and efficiency of gene expression analysis. This continuous evolution in scientific capabilities enables researchers to explore complex biological systems with unprecedented resolution, driving the discovery of new therapeutic targets and diagnostic biomarkers.

Key Market Challenges

A significant challenge impeding the growth of the Global Gene Expression Market is the substantial capital outlay required for advanced analysis platforms. Implementing high-throughput sequencing technologies and establishing complex bioinformatics infrastructure necessitates considerable upfront investment. This financial burden restricts broader adoption, particularly among smaller research entities, emerging biotechnology firms, and academic laboratories operating with limited budgets. Such high initial and ongoing maintenance costs can delay or prevent these organizations from acquiring essential equipment and developing the necessary expertise, thereby hindering the widespread application of gene expression technologies across various research and clinical domains.

Key Market Trends

The expansion of spatial transcriptomics significantly advances gene expression analysis by offering critical contextual information, enabling visualization of gene activity within its native tissue microenvironment. This capability is essential for unraveling intricate disease mechanisms, identifying precise therapeutic targets, and discovering biomarkers. Spatial transcriptomics provides insights into cellular heterogeneity and cell-to-cell interactions, fostering notable market growth. For instance, in June 2024, Moleculent AB secured USD 25.0 million in Series A financing to advance its spatial mapping of cell-cell communication. This development is supported by broader industry investment, with the European Federation of Pharmaceutical Industries and Associations reporting an estimated EUR50,000 million invested in research and development in Europe in 2023.

Key Market Players

- [] Catalent, Inc.
- [] Quest Diagnostics Incorporated
- [] F. Hoffmann-La Roche Ltd
- [] Illumina, Inc.
- [] PerkinElmer, Inc.
- [] Thermo Fisher Scientific, Inc.
- [] Promega Corporation
- [] Luminex Corporation
- [] Takara Bio USA, Inc.
- [] Danaher Corporation

Report Scope:

In this report, the Global Gene Expression Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

- [] Gene Expression Market, By Process:

- o Sample Collection
- o Purification
- o cDNA synthesis & conversion
- o PCR Analysis
- o Data analysis & interpretation

- [] Gene Expression Market, By Product:

- o Kits & Reagents
- o DNA Chips
- o Others

- [] Gene Expression Market, By Capacity:

- o Low- to Mid- Plex

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- o High-Plex

- Gene Expression Market, By Application:

- o Drug Discovery & Development

- o Clinical Diagnostics

- o Biotech & Microbiology

- o Others

- Gene Expression Market, By Technique:

- o RNA Expression

- o Promoter Analysis

- o Protein Expression & Posttranslational Modification Analysis

- Gene Expression Market, By Region:

- o North America

- United States

- Canada

- Mexico

- o Europe

- France

- United Kingdom

- Italy

- Germany

- Spain

- o Asia Pacific

- China

- India

- Japan

- Australia

- South Korea

- o South America

- Brazil

- Argentina

- Colombia

- o Middle East & Africa

- South Africa

- Saudi Arabia

- UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the Global Gene Expression Market.

Available Customizations:

Global Gene Expression Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

- Detailed analysis and profiling of additional market players (up to five).

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