+44 20 8123 2220
info@marketpublishers.com

Global Monocyte Activation Test Market Size Study, by Product (MAT Kits, Reagents), by Source (PBMC Based, Cell Line Based), by Application (Drug Development, Vaccine Development, Medical Device Testing, Others), by End Use (Pharmaceutical Industry, Biotechnology Industry, Medical Device Industry, Others), and Regional Forecasts 2022-2032

https://marketpublishers.com/r/G6AC54C87AE7EN.html
Date: March 2025
Pages: 285
Price: US$ 4,950.00 (Single User License)
ID: G6AC54C87AE7EN

Abstracts

The Global Monocyte Activation Test (MAT) Market was valued at approximately USD 511.99 million in 2023 and is anticipated to grow at a CAGR of 15.9% over the forecast period 2024-2032. The rising demand for safer pharmaceutical and biopharmaceutical products, coupled with the increased adoption of in-vitro alternatives to animal testing, is driving market growth. Regulatory agencies, including the FDA and European Pharmacopeia, have actively endorsed MAT, accelerating its market adoption. Additionally, the increasing awareness of ethical testing methods, along with ongoing advancements in MAT technology, is fostering industry expansion. The growing prevalence of chronic diseases and the rise in biologics development necessitate accurate pyrogen detection, further boosting market demand. Technological innovations, including luciferase-based assays and cryopreserved PBMC-based testing, are improving the reliability and efficiency of MAT, solidifying its presence in the industry.

The regulatory landscape is significantly influencing the MAT market, especially in Europe, where the European Pharmacopoeia Commission (EPC) has mandated the elimination of the Rabbit Pyrogen Test (RPT) by July 2025, transitioning to in-vitro testing methods such as MAT. This shift aligns with global sustainability goals and ensures the safety, efficacy, and quality of drugs, vaccines, and medical devices.

+44 20 8123 2220
info@marketpublishers.com

Pharmaceutical and biotechnology companies are integrating MAT into quality control procedures as it provides more accurate human inflammatory response assessments compared to conventional methods. These factors have accelerated the adoption of MAT, reinforcing its position as the gold standard in pyrogen testing.

The MAT market is experiencing a technological evolution with the introduction of next-generation testing solutions. Innovations like Lonza Bioscience's PyroCell MAT System, which employs cryopreserved PBMCs, are eliminating donor qualification challenges and enhancing assay efficiency. These advancements address lot-to-lot variability and reduce labor-intensive processes, ensuring on-demand testing for pharmaceuticals and biologics. Moreover, novel LumiMAT™ assays, leveraging luciferase-based reporter genes, have revolutionized high-sensitivity pyrogen detection, eliminating reliance on ELISA-based techniques. This transition towards automation and standardization is ensuring greater accuracy and repeatability in MAT applications across the pharmaceutical and biotechnology industries.

From a geographical perspective, North America dominates the market due to its strong pharmaceutical and biotechnology sectors, stringent regulatory guidelines, and widespread adoption of advanced in-vitro testing methodologies. Europe follows closely, propelled by regulatory mandates phasing out animal-based testing methods. Meanwhile, Asia-Pacific is expected to witness the fastest growth, with China, Japan, and India emerging as leading adopters due to the expansion of biopharmaceutical manufacturing and regulatory enhancements. The increasing global shift towards in-vitro, ethical, and sustainable testing methodologies continues to solidify MAT's position as the preferred solution for pyrogen detection.

Major Market Players Included in This Report Are:

Lonza Group

Charles River Laboratories

Bio-Rad Laboratories

Merck KGaA

Seikagaku Corporation

Hyglos GmbH

+44 20 8123 2220
info@marketpublishers.com

Wako Chemicals USA

Thermo Fisher Scientific

MAT BioTech

Eurofins Scientific

Sanquin Reagents B.V.

FUJIFILM Wako Pure Chemical Corporation

Nelson Laboratories, LLC

GenScript Biotech Corporation

Sartorius AG

The Detailed Segments and Sub-Segments of the Market Are Explained Below:

By Product

MAT Kits

Reagents

By Source

PBMC Based

Cell Line Based

By Application

Drug Development

+44 20 8123 2220
info@marketpublishers.com

Vaccine Development

Medical Device Testing

Others

By End-Use

Pharmaceutical Industry

Biotechnology Industry

Medical Device Industry

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

+44 20 8123 2220
info@marketpublishers.com

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of MEA

Years Considered for the Study Are As Follows:

Historical Year: 2022

+44 20 8123 2220
info@marketpublishers.com

Base Year: 2023

Forecast Period: 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 Years (2022-2032)

Annualized Revenue and Regional Analysis for Each Market Segment

Geographical Landscape with Country-Level Analysis for Major Regions

Competitive Landscape with Key Market Players

Analysis of Key Business Strategies and Recommendations for Market Approach

Demand-Side and Supply-Side Market Analysis

+44 20 8123 2220
info@marketpublishers.com

Contents

CHAPTER 1. GLOBAL MONOCYTE ACTIVATION TEST MARKET EXECUTIVE SUMMARY

1.1. Global Monocyte Activation Test Market Size & Forecast (2022-2032)
1.2. Regional Summary
1.3. Segmental Summary
  1.3.1. By Product
  1.3.2. By Source
  1.3.3. By Application
  1.3.4. By End-Use
1.4. Key Trends
1.5. Recession Impact
1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL MONOCYTE ACTIVATION TEST MARKET DEFINITION AND RESEARCH ASSUMPTIONS

2.1. Research Objective
2.2. Market Definition
2.3. Research Assumptions
  2.3.1. Inclusion & Exclusion
  2.3.2. Limitations
  2.3.3. Supply Side Analysis
    2.3.3.1. Availability
    2.3.3.2. Infrastructure
    2.3.3.3. Regulatory Environment
    2.3.3.4. Market Competition
    2.3.3.5. Economic Viability (Consumer’s Perspective)
  2.3.4. Demand Side Analysis
    2.3.4.1. Regulatory Frameworks
    2.3.4.2. Technological Advancements
    2.3.4.3. Environmental Considerations
    2.3.4.4. Consumer Awareness & Acceptance
2.4. Estimation Methodology
2.5. Years Considered for the Study
2.6. Currency Conversion Rates

+44 20 8123 2220
info@marketpublishers.com

CHAPTER 3. GLOBAL MONOCYTE ACTIVATION TEST MARKET DYNAMICS

3.1. Market Drivers
3.1.1. Growing Demand for In-Vitro Pyrogen Testing
3.1.2. Regulatory Mandates Favoring MAT Over Rabbit Pyrogen Testing (RPT)
3.1.3. Increasing R&D Investments in Biologics and Vaccines
3.2. Market Challenges
3.2.1. High Cost and Complexity of MAT Implementation
3.2.2. Limited Adoption in Developing Economies
3.3. Market Opportunities
3.3.1. Technological Advancements in MAT Assay Systems
3.3.2. Expansion of Regulatory Compliance Initiatives

CHAPTER 4. GLOBAL MONOCYTE ACTIVATION TEST MARKET INDUSTRY ANALYSIS

4.1. Porter’s 5 Force Model
4.1.1. Bargaining Power of Suppliers
4.1.2. Bargaining Power of Buyers
4.1.3. Threat of New Entrants
4.1.4. Threat of Substitutes
4.1.5. Competitive Rivalry
4.1.6. Futuristic Approach to Porter’s 5 Force Model
4.1.7. Porter’s 5 Force Impact Analysis
4.2. PESTEL Analysis
4.2.1. Political
4.2.2. Economical
4.2.3. Social
4.2.4. Technological
4.2.5. Environmental
4.2.6. Legal
4.3. Top Investment Opportunities
4.4. Top Winning Strategies
4.5. Disruptive Trends
4.6. Industry Expert Perspective
4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL MONOCYTE ACTIVATION TEST MARKET SIZE & FORECASTS BY PRODUCT 2022-2032

+44 20 8123 2220
info@marketpublishers.com

5.1. Segment Dashboard
5.2. Global Monocyte Activation Test Market: Product Revenue Trend Analysis, 2022 & 2032 (USD Million)
5.2.1. MAT Kits
5.2.2. Reagents

CHAPTER 6. GLOBAL MONOCYTE ACTIVATION TEST MARKET SIZE & FORECASTS BY SOURCE 2022-2032

6.1. Segment Dashboard
6.2. Global Monocyte Activation Test Market: Source Revenue Trend Analysis, 2022 & 2032 (USD Million)
6.2.1. PBMC Based
6.2.2. Cell Line Based

CHAPTER 7. GLOBAL MONOCYTE ACTIVATION TEST MARKET SIZE & FORECASTS BY APPLICATION 2022-2032

7.1. Segment Dashboard
7.2. Global Monocyte Activation Test Market: Application Revenue Trend Analysis, 2022 & 2032 (USD Million)
7.2.1. Drug Development
7.2.2. Vaccine Development
7.2.3. Medical Device Testing
7.2.4. Others

CHAPTER 8. GLOBAL MONOCYTE ACTIVATION TEST MARKET SIZE & FORECASTS BY END-USE 2022-2032

8.1. Segment Dashboard
8.2. Global Monocyte Activation Test Market: End-Use Revenue Trend Analysis, 2022 & 2032 (USD Million)
8.2.1. Pharmaceutical Industry
8.2.2. Biotechnology Industry
8.2.3. Medical Device Industry
8.2.4. Others

CHAPTER 9. GLOBAL MONOCYTE ACTIVATION TEST MARKET SIZE &

+44 20 8123 2220
info@marketpublishers.com

FORECASTS BY REGION 2022-2032

9.1. North America
9.1.1. U.S.
9.1.2. Canada
9.2. Europe
9.2.1. U.K.
9.2.2. Germany
9.2.3. France
9.2.4. Spain
9.2.5. Italy
9.2.6. Rest of Europe
9.3. Asia-Pacific
9.3.1. China
9.3.2. India
9.3.3. Japan
9.3.4. Australia
9.3.5. South Korea
9.3.6. Rest of Asia Pacific
9.4. Latin America
9.4.1. Brazil
9.4.2. Mexico
9.4.3. Rest of Latin America
9.5. Middle East & Africa
9.5.1. Saudi Arabia
9.5.2. South Africa
9.5.3. Rest of Middle East & Africa

CHAPTER 10. COMPETITIVE INTELLIGENCE

10.1. Key Company SWOT Analysis
10.1.1. Lonza Group
10.1.2. Charles River Laboratories
10.1.3. Bio-Rad Laboratories
10.2. Top Market Strategies
10.3. Company Profiles
10.3.1. Lonza Group
10.3.2. Charles River Laboratories
10.3.3. Bio-Rad Laboratories

+44 20 8123 2220
info@marketpublishers.com

10.3.4. Merck KGaA
10.3.5. Seikagaku Corporation
10.3.6. Hyglos GmbH
10.3.7. Wako Chemicals USA
10.3.8. Thermo Fisher Scientific
10.3.9. MAT BioTech
10.3.10. Eurofins Scientific

CHAPTER 11. RESEARCH PROCESS

11.1. Research Process
11.1.1. Data Mining
11.1.2. Analysis
11.1.3. Market Estimation
11.1.4. Validation
11.1.5. Publishing
11.2. Research Attributes

+44 20 8123 2220
info@marketpublishers.com

List Of Tables

LIST OF TABLES

• Table 1: Global Monocyte Activation Test Market, Report Scope
• Table 2: Global Monocyte Activation Test Market Estimates & Forecasts by Region 2022-2032 (USD Million)
• Table 3: Global Monocyte Activation Test Market Estimates & Forecasts by Product 2022-2032 (USD Million)
• Table 4: Global Monocyte Activation Test Market Estimates & Forecasts by Source 2022-2032 (USD Million)
• Table 5: Global Monocyte Activation Test Market Estimates & Forecasts by Application 2022-2032 (USD Million)
• Table 6: Global Monocyte Activation Test Market Estimates & Forecasts by End-Use 2022-2032 (USD Million)
• Table 7: U.S. Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 8: Canada Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 9: Europe Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 10: Germany Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 11: UK Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 12: France Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 13: Spain Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 14: Italy Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 15: China Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 16: India Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 17: Japan Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 18: Australia Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)

+44 20 8123 2220
info@marketpublishers.com

• Table 19: South Korea Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 20: Brazil Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 21: Mexico Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 22: Saudi Arabia Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
• Table 23: South Africa Monocyte Activation Test Market Estimates & Forecasts, 2022-2032 (USD Million)
This list is not complete, final report does contain more than 100 tables. The list may be updated in the final deliverable.

+44 20 8123 2220
info@marketpublishers.com

List Of Figures

LIST OF FIGURES

• Figure 1: Global Monocyte Activation Test Market, Research Methodology
• Figure 2: Global Monocyte Activation Test Market, Market Estimation Techniques
• Figure 3: Global Monocyte Activation Test Market, Key Trends 2023
• Figure 4: Global Monocyte Activation Test Market, Growth Prospects 2022-2032
• Figure 5: Global Monocyte Activation Test Market, Competitive Landscape
• Figure 6: Global Monocyte Activation Test Market, Porter's Five Forces Analysis
• Figure 7: Global Monocyte Activation Test Market, PESTEL Analysis
• Figure 8: Global Monocyte Activation Test Market, Value Chain Analysis
• Figure 9: Global Monocyte Activation Test Market by Product, 2022 & 2032 (USD Million)
• Figure 10: Global Monocyte Activation Test Market by Source, 2022 & 2032 (USD Million)
• Figure 11: Global Monocyte Activation Test Market by Application, 2022 & 2032 (USD Million)
• Figure 12: Global Monocyte Activation Test Market by End-Use, 2022 & 2032 (USD Million)
• Figure 13: Global Monocyte Activation Test Market, Regional Snapshot 2022 & 2032
• Figure 14: North America Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 15: Europe Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 16: Asia Pacific Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 17: Latin America Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 18: Middle East & Africa Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 19: U.S. Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 20: China Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 21: India Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 22: Brazil Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 23: Germany Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 24: UK Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 25: France Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 26: Japan Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 27: Australia Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 28: Saudi Arabia Monocyte Activation Test Market, 2022 & 2032 (USD Million)
• Figure 29: South Africa Monocyte Activation Test Market, 2022 & 2032 (USD Million)

+44 20 8123 2220
info@marketpublishers.com

• Figure 30: Competitive Analysis of Key Players in the Monocyte Activation Test Market

This list is not complete, final report does contain more than 50 figures. The list may be updated in the final deliverable.

+44 20 8123 2220
info@marketpublishers.com

I would like to order

Product name: Global Monocyte Activation Test Market Size Study, by Product (MAT Kits, Reagents), by Source (PBMC Based, Cell Line Based), by Application (Drug Development, Vaccine Development, Medical Device Testing, Others), by End Use (Pharmaceutical Industry, Biotechnology Industry, Medical Device Industry, Others), and Regional Forecasts 2022-2032

Product link: https://marketpublishers.com/r/G6AC54C87AE7EN.html

Price: US$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G6AC54C87AE7EN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html

+44 20 8123 2220
info@marketpublishers.com

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970