

Western Blotting: Global Markets

Market Research Report | 2023-12-21 | 110 pages | BCC Research

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Report description:

Description

Report Scope:

The current report will provide detailed analysis of the Western blotting market. This report analyzes the market trends with data from 2020, estimates from 2022, projections of compound annual growth rates through 2028 (forecast period 2023-2028), and analysis of regional markets. This report will highlight the current and future market potential of Western blotting, and includes a detailed analysis of the competitive environment. The report will cover regulatory scenarios, drivers, restraints, and opportunities. The report also covers market projections for 2028 and the market share for key market players.

The scope of this report is segmented into product type, applications, end user, and region. Product type is further segmented into instruments and consumables. Instrument products are segmented into imagers, blotting systems, and gel electrophoresis instruments. Consumables are segmented into reagents, kits, and others. The applications are segmented into biomedical and biochemical research, disease diagnostics, agriculture, and others. The end users are segmented into academic and research institutes, pharmaceutical and biotech companies, diagnostic centers, and others.

A regional market analysis for Western blotting is also covered in this report. The market has been segmented into various significant geographies, including North America, Europe, Asia-Pacific, Latin America, and Middle East and Africa. A detailed analysis of major countries such as the U.S., Germany, the U.K., Italy, France, Japan, China, and India will be covered within the regional segment. For market estimates, data will be provided for 2022 as the base year, with forecasts for 2023 and forecast value for 2028.

Report Includes:

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- 47 data tables and 17 additional tables
- An overview of the global market for western blotting
- Analysis of global market trends, featuring historical revenue data for 2020 to 2022, estimated figures for 2023, forecasts for 2028, and projections of compound annual growth rates (CAGRs) through 2028
- Evaluation of the current market size and revenue growth prospects, accompanied by a market share analysis by product, application, end user and geographical region
- Descriptions of concepts such as gel electrophoresis and antibody probing, and processes such as tissue preparation, protein transfer, blocking and antibody interactions
- Discussion of major application areas of western blotting technique such as disease diagnostics, agriculture, biomedical and biochemical research
- Assessment of processes such as protein separations and extraction of target proteins, and new imaging platforms such as fluorescent, multiplex and chemiluminescent western blotting techniques and their protocols
- Coverage of emerging technologies in western blotting market, recent developments, future opportunities, patent review, product pipelines and ESG trends
- Market share analysis of the key companies and coverage of mergers & acquisitions, joint ventures, collaborations and partnerships
- Profiles of leading market participants

Executive Summary

Summary:

Since the introduction of Western blotting, the technique has been adopted by biology labs and emerged as one of the most widely used techniques in the research field. Western blotting is also employed in clinical laboratories to help in the diagnosis of various diseases. Western blotting is considered to be a powerful technique for clinical diagnosis of infectious diseases such as hepatitis C, Lyme disease, HIV, syphilis, and autoimmune disorders including myositis conditions and paraneoplastic disease.

There have been a number of cases where researchers have deviated from this technique due to the availability of other methods that prove to be more sensitive. However, continuous development in automation technology made Western blotting more specific, accurate, and sensitive. Other modifications that help to increase the quantitation, sensitivity, and through-put of this technique are also being developed. For instance, the use of capillary electrophoresis, where proteins are transported through a small electrolyte-filled tube and separated based on the size and charge before dropping onto a blotting membrane, reduces the amount of protein required for the analysis and enables Westerns to be run on proteins from rare cells or for limited samples.

An early major restraint of traditional Western blotting was the absence of reliable and effective automation, especially for manual handling of immunodetection. Precision Biosystems' BlotCycler and similar instrumentation developments have filled this gap and minimized operation error to provide improved results. Automated systems are normally used for screening and drug development programs and have fewer uses in the academic area. Within academic research, common experiments include running small sample numbers with varied sets of antibodies where the use of automated systems is less beneficial.

Increasing cases of HIV and Lyme disease are contributing to the demand for Western blotting. However, with the use of other tests such as ELISA, indirect fluorescent antibody (IFA), and polymerase chain reaction (PCR) for HIV detection, the chances of imprecise results are high. Thus, Western blotting is being used increasingly to effectively differentiate between HIV and other antibodies and provide precise results. Therefore, experts are increasingly recommending this test, and this is expected to drive market growth over the forecast period. Lyme, a tick-transmitted bacterial infection, is becoming increasingly prevalent, especially in the U.S. Accurate diagnosis of this disease is critical to ensure proper diagnosis and treatment, and the need for precisely tailored treatments has encouraged the use of Western blotting techniques and propelled market growth.

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The global market for Western blotting was valued at \$REDACTED billion in 2022. The market is expected to grow at a compound annual growth rate (CAGR) of REDACTED% to reach \$REDACTED billion by 2028. The growth of the global market is attributed to factors such as the increasing prevalence of target diseases, increasing R&D investments by medical companies, and biomedical research government funding.

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