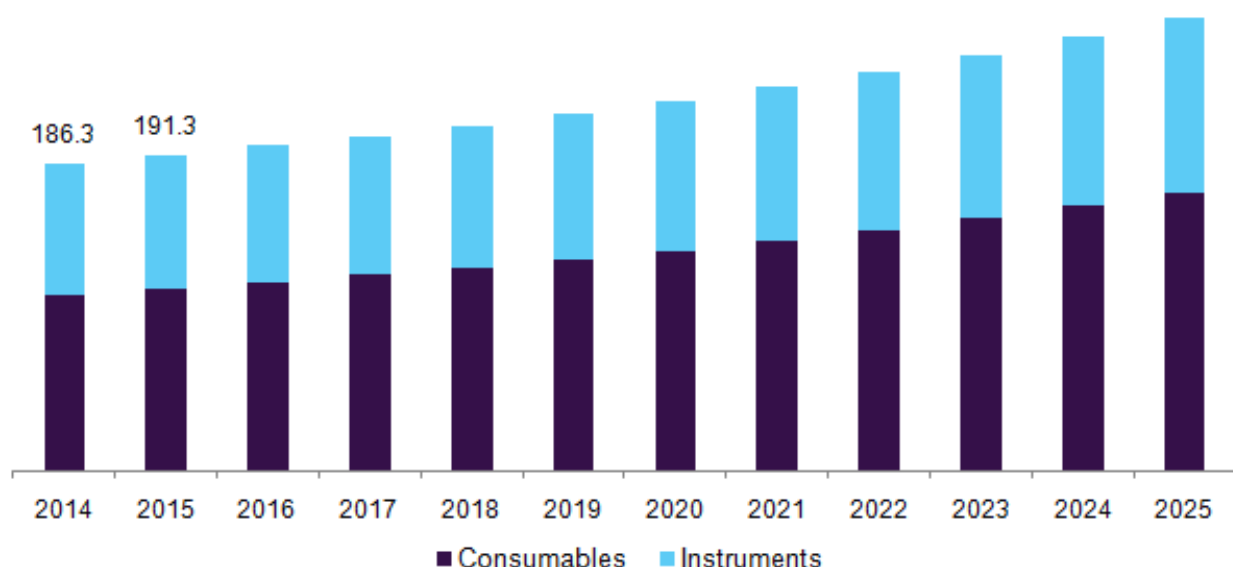


WHAT IS THE FORECAST FOR THE WESTERN BLOTTING MARKET?

Woodham Biotechnology Holdings, LLC's patented Western blotting technology is poised to revolutionize bioscience research and blood screening technology. In 2016, the global Western blotting market was valued at USD 606.7 million, and was projected to exhibit a CAGR of 5.1% over the period 2018–2026.^{1, 2} According to one recent forecast, it is estimated to surpass US\$ 993.4 Million by 2027.³

U.S. western blotting market, by product, 2014 - 2025 (USD Million)



WHAT IS DRIVING THE GROWTH OF THE WESTERN BLOTTING MARKET?

The significant growth of the Western blotting market can be attributed to its many applications in diagnostic and therapeutic testing, as well as academic research.⁴

Western blotting is used in diagnostics and confirmatory tests in HIV/AIDS, epidermolysis bullosa acquisita, tularemia, some of the Lyme diseases and paraneoplastic pemphigus diseases.⁵

¹ <https://www.grandviewresearch.com/industry-analysis/western-blotting-market>

² <https://www.prnewswire.com/news-releases/global-western-blotting-market-to-surpass-us-970-4-million-by-2026--coherent-market-insights-300871163.html>

³ <https://www.coherentmarketinsights.com/market-insight/western-blotting-market-2711>

⁴ Ingrosso, Loredana; Vetrugno, Vito; Cardone, Franco; Pocchiari, Maurizio (2002-06-01). "Molecular diagnostics of transmissible spongiform encephalopathies". Trends in Molecular Medicine. 8 (6): 273–280. (<https://europepmc.org/article/med/12067613>)

⁵ <https://www.prnewswire.com/news-releases/global-western-blotting-market-to-surpass-us-970-4-million-by-2026--coherent-market-insights-300871163.html>

It is also used by the World Anti-Doping Association (WADA) to detect blood doping in athletes.⁶
⁷ The technique is also used in research studies to quantify the amount and weight of proteins.⁸
Given the many applications of Western blotting, market analyses have uniformly forecasted that the market will experience accelerated growth in the coming years.⁹

For example, the rising prevalence of HIV has led to huge demand for Western blotting tests.^{10, 11} According to the Centers for Disease Control, as of 2016, around 36.7 million people were living with HIV across the globe.¹² Western blot has been the preferred test for detecting HIV owing to its greater accuracy in detecting the HIV virus.¹³

The high prevalence of Lyme disease is also driving the growth of the Western blotting market.^{14, 15} Again, according to the CDC, around 300,000 new cases of Lyme diseases are recorded annually in the United States.¹⁶ As Western blotting is a commonly used test for detecting Lyme disease, the increase in prevalence of Lyme diseases is expected to contribute to the growth of the Western blotting market.¹⁷

WHAT ARE THE EXPECTED GEOGRAPHIC AREAS OF GROWTH FOR WESTERN BLOTTING?

The Western blotting market is expected to grow strongest in North America, which accounts for the largest share of the global market.¹⁸ This can be attributed to the increasing prevalence of HIV and Lyme disease in the U.S., rise in research funding and increasing production of genetically modified crops in the U.S., and HIV vaccine initiative in Canada.¹⁹

⁶ *Id.*

⁷ Baume, Norbert; Jan, Nicolas; Emery, Caroline; Mandanis, Béatrice; Schweizer, Carine; Giraud, Sylvain; Leuenberger, Nicolas; Marclay, François; Nicoli, Raul; Perrenoud, Laurent; Robinson, Neil; Dvorak, Jiri; Saugy, Martial (2015). "Antidoping programme and biological monitoring before and during the 2014 FIFA World Cup Brazil". *British Journal of Sports Medicine*. 49 (9): 614–622. (<https://pubmed.ncbi.nlm.nih.gov/25878079/>)

⁸ <https://www.prnewswire.com/news-releases/global-western-blotting-market-to-surpass-us-970-4-million-by-2026--coherent-market-insights-300871163.html>

⁹ *Id.*

¹⁰ <https://stanfordhealthcare.org/medical-conditions/sexual-and-reproductive-health/hiv-aids/diagnosis/western-blot-test.html> ("A Western blot test is typically used to confirm a positive HIV diagnosis.")

¹¹ <https://www.grandviewresearch.com/industry-analysis/western-blotting-market>

¹² *Id.*

¹³ *Id.*

¹⁴ <https://www.grandviewresearch.com/industry-analysis/western-blotting-market>

¹⁵ Artsob, Harvey (1993). "Western Blot as a confirmatory test for Lyme disease". *The Canadian Journal of Infectious Diseases*. 4 (2): 115–116. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3250769/>)

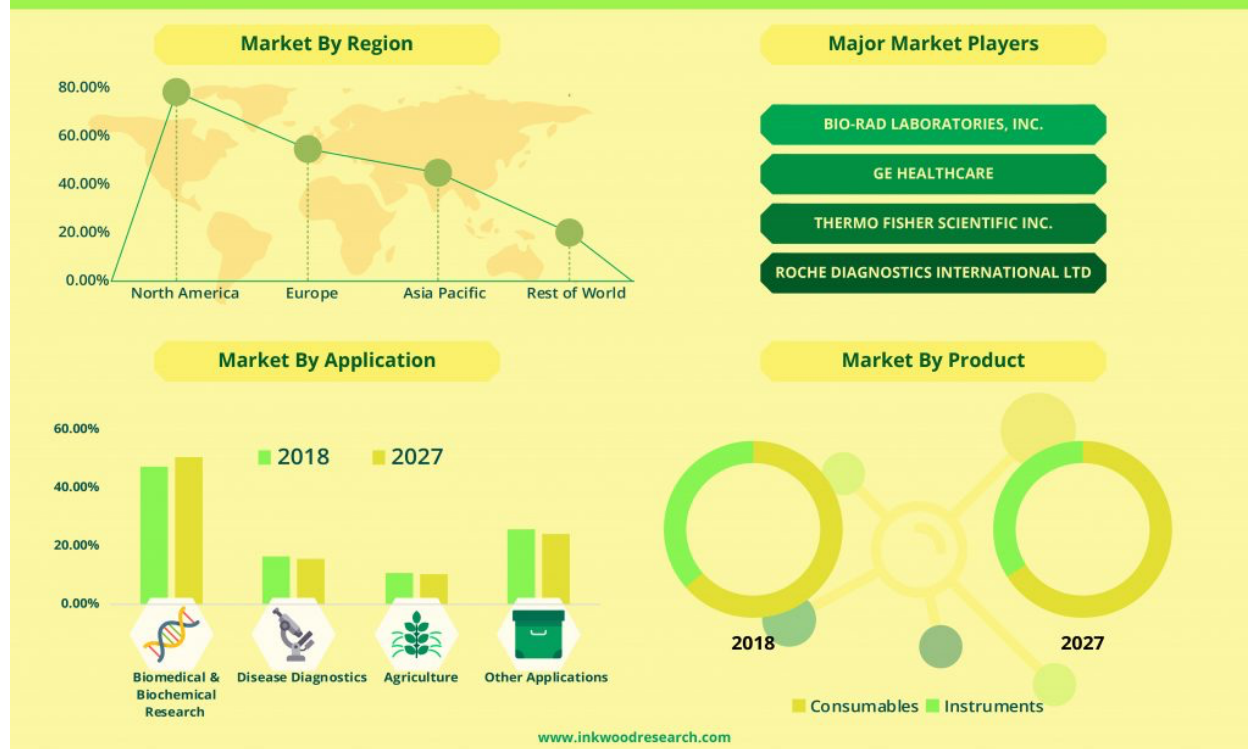
¹⁶ *Id.*

¹⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3250769/>

¹⁸ <https://www.prnewswire.com/news-releases/global-western-blotting-market-to-surpass-us-970-4-million-by-2026--coherent-market-insights-300871163.html>

¹⁹ <https://www.marketsandmarkets.com/Market-Reports/western-blotting-market-235810711.html>

GLOBAL WESTERN BLOTTING MARKET FORECAST 2019-2027



In the coming years, the highest growth of the Western blotting market is expected in the Asia-Pacific region.²⁰ This can be attributed to increasing government interest in biomedical & biotechnology industry in China, government initiatives supported by funding in Japan, growing funding for agriculture research in India, increasing diagnosis and related funding in Australia, and growing prevalence of herpes simplex virus (HSV) in southeast Asia.²¹

MARKET PLAYERS

The growth of the global Western blotting market will be led by some of the key players in the market worldwide, including companies such as Bio-Rad Laboratories, Inc. (U.S.), Thermo Fisher Scientific, Inc. (U.S.), GE Healthcare (U.S.), Advansta, Inc. (U.S.), LI-COR Biosciences (U.S.), PerkinElmer, Inc. (U.S.), Bio-Techne Corporation (U.S.), Merck KGaA (Germany), F. Hoffmann-La Roche Ltd. (Switzerland), and Cell Signaling Technology, Inc. (U.S.).^{22, 23}

²⁰ <https://www.marketsandmarkets.com/Market-Reports/western-blotting-market-235810711.html>

²¹ *Id.*

²² <https://www.marketsandmarkets.com/Market-Reports/western-blotting-market-235810711.html>

²³ <https://www.grandviewresearch.com/industry-analysis/western-blotting-market>

WHAT OPPORTUNITIES ARE IN THE GLOBAL WESTERN BLOTTING MARKET FOR WOODHAM BIOTECHNOLOGY'S PATENTS?

Driven by market growth, new advancements in Western blotting technology is developing quickly.²⁴ For example, with the introduction of better imaging software for management of Western blotting results, the amount of sample and antibody needed for Western blotting will continue to decrease because of new equipment as well as improvements in reagents and detection systems.

However, conventional Western blotting is still fundamentally hindered by the conventional technology. Practitioners know well the problems and difficulties associated with using the conventional two-step process of Western blotting. These include the introduction of air bubbles when placing gels on membranes, and as gels have become thinner to reduce the amount of protein needed, the tearing of gels that occurs when the user moves the gels from the precast setting to the blotting membrane. These complications can be devastating when the analysis of limited amounts of protein is required, especially when no more protein is available or it is a clinical specimen.

Woodham Biotechnology has patented methods for simplifying the Western blotting technique by reducing the traditional two-step process (protein separation and protein transfer) into a single-step and using a single apparatus instead of separate apparatuses for electrophoresis and for protein transfer. This patented single-step, single-apparatus Western blotting technique offers lucrative growth opportunities in the global Western blotting market. Any player in the market that is licensed to practice Woodham Biotechnology's single-step, single-apparatus Western blotting patents will enhance its market share over competitors using the conventional two-step process.

²⁴ Mishra, M.; Tiwari, S., & Gomes, A., "Protein purification and analysis: next generation Western blotting techniques" (Oct. 2019) (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6810642/>)