

DiLun Biotechnology: A Global Leading Peptide Synthesizers Manufacturer Dedicated to Precision

CHANGPING, BEIJING, CHINA, May 8, 2026 /EINPresswire.com/ -- Beijing DiLun Biotechnology Co., Ltd., recognized internationally through its proprietary PepAxis™ technology brand, continues to strengthen its position as a [Global Leading Peptide Synthesizers Manufacturer](#) by providing high-precision automated systems for the pharmaceutical and research sectors. The company's core product line features the PepAxis™ series, which encompasses a wide range of solid-phase peptide synthesis (SPPS) equipment. These systems utilize advanced 180° up-down mixing technology with zero dead angles and microwave-assisted capabilities to ensure maximum purity and efficiency in molecular construction. From R&D scale units to industrial-grade production systems, these synthesizers are engineered to meet the rigorous demands of modern biochemistry and therapeutic development.

The Evolving Landscape of Peptide Synthesis and Global Healthcare
The global peptide therapeutics market is currently undergoing a period of significant expansion, driven by the increasing prevalence of metabolic diseases, oncology research, and the rapid development of antimicrobial peptides. Recent



industry data suggests that as pharmaceutical pipelines shift toward more complex biologics, the demand for reliable, high-throughput synthesis technology has reached an all-time high.

Traditional manual methods are no longer sufficient to meet the speed and precision required for clinical-stage development. Consequently, the industry is moving toward fully automated, closed-loop systems that minimize human error and environmental impact.

Technological integration is another primary trend shaping the sector. The convergence of Artificial Intelligence (AI) and peptide drug discovery is accelerating the identification of therapeutic sequences, which in turn necessitates synthesis hardware that can handle rapid, small-scale iterations alongside large-scale production. Environmental sustainability has also become a critical factor; modern laboratory standards now prioritize solvent recovery and energy-efficient heating methods. As global healthcare infrastructures focus on personalized medicine and targeted therapies, the role of specialized synthesis equipment becomes the backbone of innovation, bridging the gap between laboratory-scale discovery and commercial-grade manufacturing.

Furthermore, the regulatory environment for drug manufacturing is becoming increasingly stringent. Manufacturers are now required to provide comprehensive data logging and real-time monitoring of synthesis parameters to ensure compliance with international quality standards. This shift toward "smart manufacturing" in the biotech space is not merely a preference but a necessity for companies aiming to bring new peptide-based drugs to the global market effectively. The industry pulse indicates that the future of peptide synthesis lies in the balance of throughput, precision, and ecological responsibility.

Market analysts observe that the shift toward automated synthesis is not merely about speed, but about the reproducibility of results. In an era where data integrity is paramount, the ability to record every step of the synthesis process provides a verifiable audit trail essential for regulatory approval. As such, the evolution of the synthesizer from a simple lab tool to a sophisticated data-generating platform is a defining characteristic of the current decade in biotechnology. This transition ensures that life-saving medications reach patients with the highest degree of safety and consistency.

Core Advantages and the PepAxis™ Technological Edge

DiLun Biotechnology distinguishes itself through a commitment to precision engineering and laboratory efficiency. The company's core advantage lies in its proprietary PepAxis™ technology, which is rooted in a modular design philosophy. By integrating advanced digital management with physical hardware, DiLun Bio systems allow for independent configuration of activation and deprotection methods for each amino acid. This level of control is essential for synthesizing complex or long-chain peptides that are often prone to aggregation or incomplete coupling in standard systems.

The main product portfolio is divided into distinct categories to serve the entire lifecycle of drug development. The R&D Scale series, including the Nova1 and Nova5 Microwave systems, provides researchers with the tools to reduce coupling and deprotection times to a fraction of conventional methods. The Nova5 system, in particular, utilizes microwave-assisted solid-phase synthesis to enhance reaction speed without compromising the integrity of the peptide chain. For larger requirements, the Atlas Pilot Scale and Sirius Industrial Grade systems offer large-volume dual-jacket temperature-controlled reactors with real-time monitoring of pressure,

temperature, and stirring speed. These industrial systems are specifically designed to reduce cleaning solvent usage by up to 40%, aligning with the industry's green chemistry goals. The Sirius model features quantitative solvent transfer via metering pumps, ensuring that every milliliter of reagent is utilized effectively, which is critical for maintaining cost-efficiency in large-scale production.

Application Scenarios and Strategic Partnerships

The application of DiLun Biotechnology's equipment spans across diverse scientific domains. In academic and corporate R&D laboratories, high-throughput asynchronous synthesizers like the Tetras—capable of managing up to 106 independent reactors—are utilized for library screening and the construction of antimicrobial peptide libraries. This high-throughput capability allows scientists to explore thousands of variations in parallel, significantly shortening the early discovery phase.

In the clinical sector, the company's pilot and production-scale synthesizers are employed to manufacture active pharmaceutical ingredients (APIs) for trials, where consistency and purity are non-negotiable. The Aquila series further supports these processes by providing automated cleavage and precipitation, ensuring the final peptide-resin is processed with minimal loss and maximum purity. These systems represent a modular three-vessel approach (cleavage, concentration, and precipitation) that streamlines the workflow from the solid support to the final purified product.

The company serves a broad spectrum of clients, ranging from top-tier research universities and global contract research organizations (CROs) to large-scale pharmaceutical manufacturers. These partnerships are built on a foundation of technical support and customized solutions. For instance, customized industrial-grade cleavage systems are often developed to integrate directly into a client's existing workflow, providing a seamless transition from synthesis to purification. By focusing on the "Axis" of innovation—connecting molecular origins to infinite therapeutic possibilities—DiLun Biotechnology remains a pivotal partner in the global quest for advanced medical solutions. The company's dedication to precision and environmental sustainability ensures that it remains at the forefront of the peptide synthesis industry, providing the tools necessary for the next generation of life-saving drugs.

For more information regarding automated peptide synthesis solutions and technical specifications, please visit the official company website: <https://www.peptidescientific.com/>

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