

Fastest Peptide Synthesis Service in 2021

LifeTein is a contract research organization located in Somerset, New Jersey, and was founded in 2008. Regarded as the fastest peptide synthesis service, LifeTein also provides custom protein, antibody, and chemical services for biotech, pharma, academia, government agencies, and diagnostics. Additionally, its services reach across the entire United States and more than 30 other nations.

LifeTein's primary focus is peptide synthesis service. The company has developed proprietary PeptideSyn technology, which provides a platform for continuous peptide synthesis using Fmoc and Boc chemistry, microwave technology, and a proprietary solid support resin. LifeTein routinely uses proprietary microwave technologies to produce peptides of >100 amino acids.

The chemical synthesis of very long peptides is particularly challenging; the process is expensive and time-consuming. LifeTein is asked frequently to synthesize relatively large peptides sized 100–200 residues. General Manager Li Li explains, “Recently, we synthesized a 169-amino acid peptide. This demonstrates that the synthesis of peptides sized 100–200 amino acids is not beyond the capabilities of our current PeptideSyn technology.”

Li Li adds, “Under COVID-19, more scientists shifted their research focus to virus binding and entry into cells. LifeTein provides fluorescently labeled peptides to researchers so that they can trace the live entry of peptides, proteins, and chemicals into cells using fluorescence microscopy techniques. More importantly, as COVID-19 mRNA vaccines are developed, LifeTein is getting more inquiries on Peptide Nucleic Acids (PNAs) synthesis.”

PNAs are synthetic analogs of DNA or RNA that consist of nucleobases attached to a peptide backbone. PNA provides a powerful tool and an innovative strategy to study the mechanism of transcription, regulate target gene expression, antisense, antigen agents, molecular probes, and biosensors. LifeTein's PNA synthesis service provides an excellent tool for researchers to understand the virus better.

While most of LifeTein's competitors are operated overseas, LifeTein's synthesis facility is in New Jersey, making LifeTein stand out amongst its peers, meaning LifeTein closely follows and complies both the quality standards and regulations set by New Jersey State and the USA government. Li Li continues, “Our fast synthesis and local presentation in New Jersey differentiate LifeTein from the competitors, who have overseas operations, slow shipping, and low-quality standards.”

Most importantly, LifeTein provides the fastest turnaround time and most reliable quality in the industry from its proprietary microwave-assisted heating technology for peptide synthesis. The microwave can instantly heat solvents or amino acids in solution through dipolar rotation or ionic conduction, resulting in a more efficient, more precise, and safer heating mode for peptide synthesis.

“A group of scientists founded LifeTein,” Li Li states, “So, we think from the customers' perspective. In this way, we can provide



straightforward answers and solve their technical issues quickly. The products and services we provide are based on high-quality and validated data and results.”

Additionally, LifeTein plans to build a platform with a large-scale synthesis method to facilitate fast drug screening in the long run. “The current drug screening process takes a long time with high costs. Once we build up the platform, we can easily and quickly synthesize a series of peptides for drug target discovery and screening,” Li Li concludes.

LifeTein provides peptide design and monoclonal antibody production services. Recently, LifeTein used its Receptor Binding Domain (RBD) peptide of the COVID-19 for monoclonal antibody production, and the antibody was successfully made and licensed to a big pharmaceutical company.

With LifeTein leading the way within its industry, we can expect the company to continue its path of innovation at the same high quality it has always given.

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