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China's Tsingke unveils 'Zero-Contact' gene synthesis to safeguard core genetic sequences

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From design and synthesis to storage, sensitive sequences can be inadvertently exposed



As the pace of biotechnology research accelerates, companies are increasingly challenged to balance rapid innovation with the protection of sensitive genetic information. Responding to this trend, China-based Tsingke Biotech has introduced its "Zero-Contact Sequences" system—a fully automated, on-site platform designed to minimise the risk of sequence exposure while offering a practical model for secure and efficient R&D.

Across antibody therapeutics, cell and gene therapies, oligonucleotide drugs, industrial enzymes, and AI-driven molecular design, securing core genetic sequences is now a key factor in both IP protection and staying competitive.

Tsingke's system enhances gene synthesis security in synthetic biology by:

- On-site, end-to-end processing: All analysis is performed locally, eliminating cloud storage and reducing potential exposure.
- Untraceable synthesis: Encrypted sequences are read directly by equipment, with operation logs automatically cleared to minimise human intervention.
- Automated quality control and controlled sample lifecycle: Only pass/fail results are reported, and plasmids or strains can be destroyed under client supervision, with full monitoring.

Nan Zhang, Global Marketing Manager at Tsingke Biotech, said, "As synthetic biology and biotech R&D evolve, ensuring gene synthesis security and protecting intellectual property are more critical than ever. The Zero-Contact system represents more than a step forward in sequence security—it reflects our forward-looking approach to the future of gene research. Through innovations like this, we aim to offer industry-wide insights and contribute to more secure, efficient, and sustainable R&D practices."