

ENFINIATM DNA

Cell-Free Gene Synthesis



ELEGEN



ELEGEN

NEXT-GEN GENE SYNTHESIS

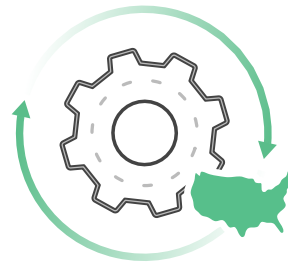
Cell-Free Synthesis and Cloning to Speed Genetic Medicine

WHAT IS NEXT-GEN GENE SYNTHESIS?

Traditional gene synthesis providers rely on slow, variable, and contamination-prone cell-based cloning, hindering downstream applications. Elegen's cell-free gene synthesis technology offers rapid, scalable, high-fidelity DNA solutions to advance genetic medicine development.



**Faster design-build-test-learn
cycles for quicker insights**



**Streamlined DNA supply with
US-based manufacturing**



**Reduced time, budget, and
resource demands**



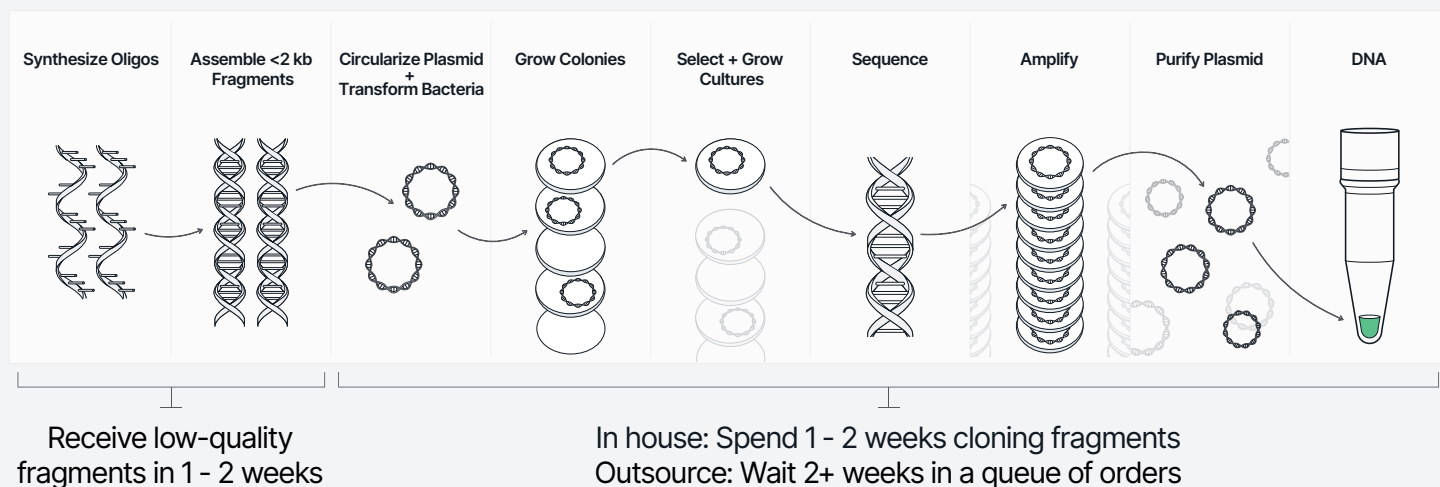
**Simplified DNA scale-up without
fermentation, endotoxins, or high
overhead costs**

CELL-FREE CLONING TECHNOLOGY

The lengthy, time-consuming process of assembling and cloning short fragments of DNA is costly, error-prone, and difficult to automate. This approach can take several weeks and even months for multi-kilobase constructs. Our patented cloning technology on our GEN II Platform bypasses cell-based cloning to deliver long DNA faster and more reliably.

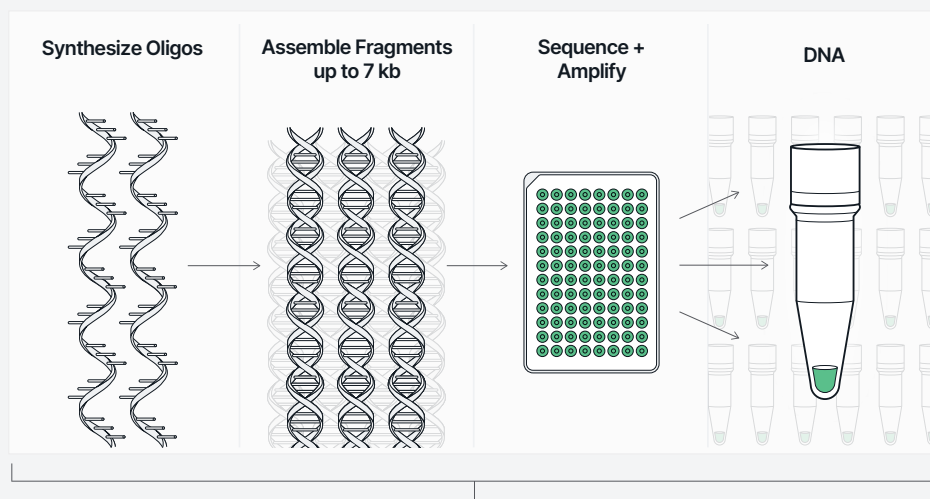
Conventional Gene Synthesis:

~80% of the time to build DNA is spent cloning in cells



Cell-Free Gene Synthesis:

Full-length, complex, NGS-verified DNA shipped as fast as 6 business days



Next-generation cell-free gene synthesis delivers long, clonal-quality DNA fast, streamlining the process to save weeks

ENFINIA LINEAR DNA

Powered by Elegen's cell-free gene synthesis technology, ENFINIA Linear DNA offers NGS-verified, double-stranded DNA up to 7 kb with 99.999% accuracy and a 1:70,000 bp error rate—twice the length and 20x the accuracy of leading competitors.

Explore a More Diverse Sequence Space with High-Complexity Synthesis



Standard &
High complexity



Shipped in 6 - 8
business days

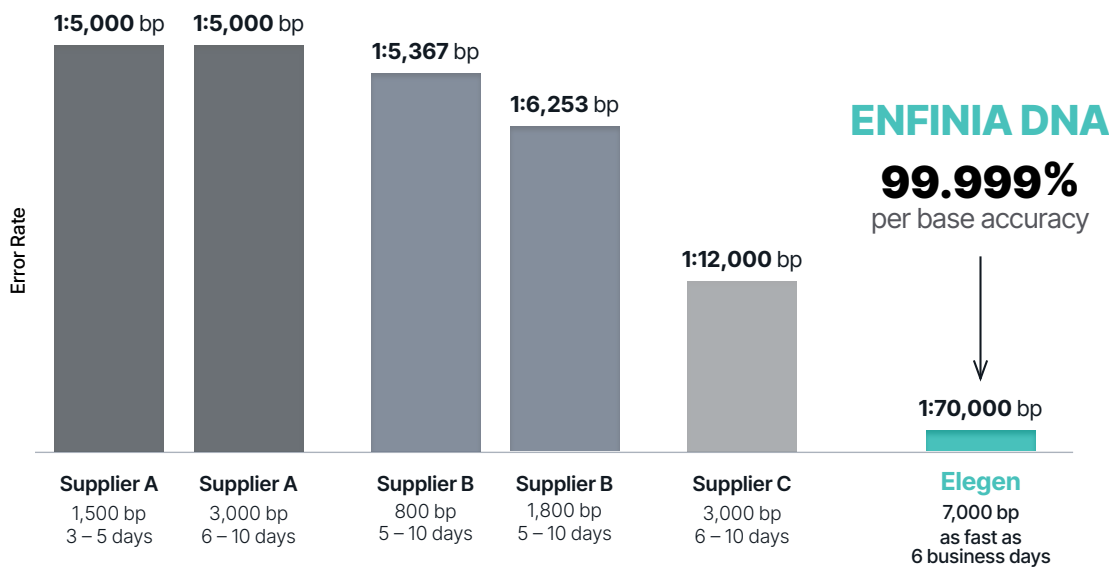


Starting at
\$0.07/bp



Length up
to 7 kb

Save Time with NGS-Verified DNA that is 2X Longer and 20X More Accurate

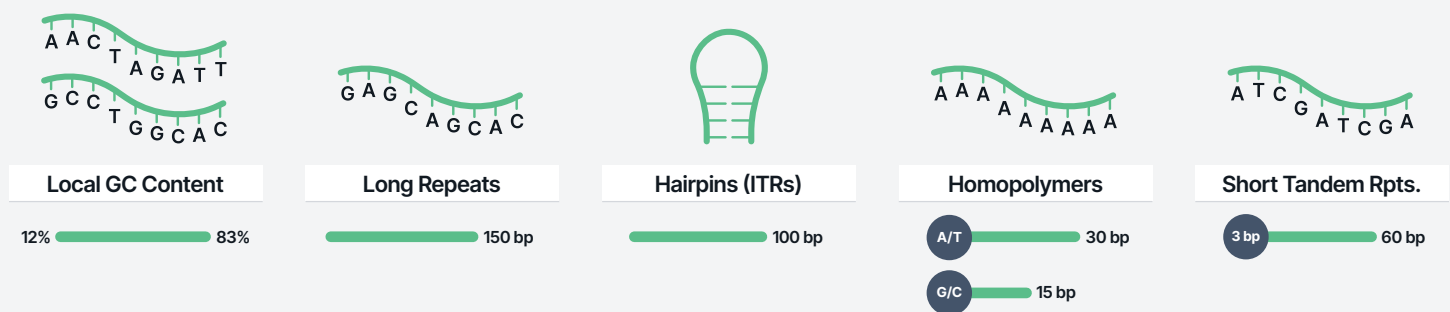


- 2 - 7X longer sequences eliminate assembly workflows
- 20X higher accuracy eliminates cloning & sequencing
- Shipped fast to speed discovery

DESIGN WITHOUT COMPROMISE

Traditional gene synthesis forces researchers to compromise on DNA length, complexity, or accuracy. Elegen's cell-free technology delivers custom DNA with unmatched length, complexity, accuracy, and speed, accelerating mRNA vaccines, cell therapies, and personalized medicine development by months.

Explore a More Diverse Sequence Space with High-Complexity Synthesis



Accelerate AI-Driven Approaches

High-quality, quick-turn linear DNA powers generative models to provide faster, more accurate predictions for optimal therapeutic design.



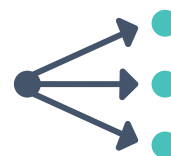
Training Data for
Generative Models



Exploration of
Genetic Space



Testing
Hypotheses

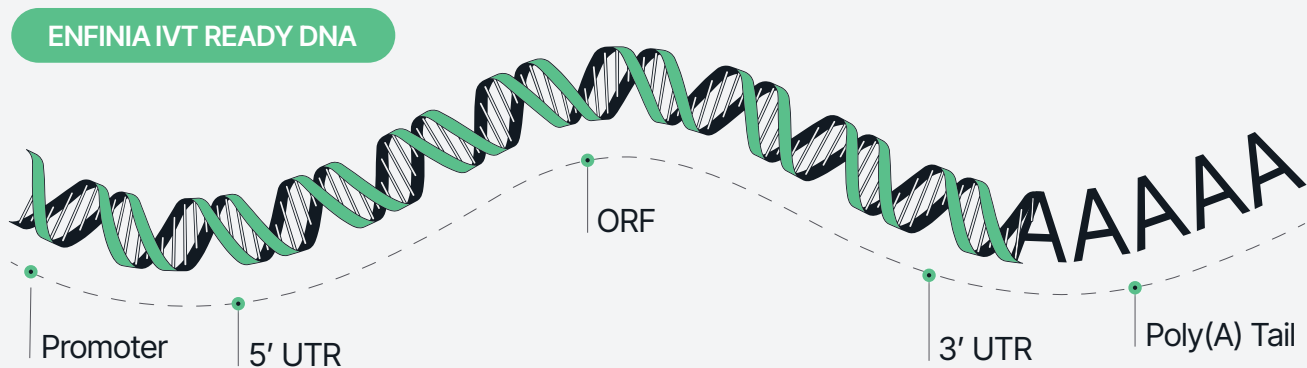


Improving
Model Reliability

ENFINIA IVT READY DNA

ENFINIA IVT Ready DNA is linear dsDNA with a poly(A) tail, designed for fast, flexible, and reliable mRNA production by *in vitro* transcription (IVT). Synthesized cell free and devoid of plasmid-related artifacts, ENFINIA templates avoid the risk of endotoxin contamination and recombination. The DNA is NGS-verified and delivered in as few as 10 business days.

Versatility to Meet Your Needs



High-Complexity DNA with Tailored Poly(A) Tails—Ready to Power Your IVT Now


Length 1 - 5.5 kb,
Excluding Poly(A) Tail


Standard Yield
10 µg & 50 µg


Standard &
High Complexity


Starting at
\$0.07/bp + Tail Fee

Range of Poly(A) Tails Available:

Continuous Tails	A70	A80	A90	A100	A110	A120	A130
Segmented Tails	A30-Linker-A70			A30-Linker-A90			
	(two deoxyadenosines homopolymers separated by a 10 bp UGC Linker, 5'-GCATATGACT-3') ¹						

1. Chaudhary, N. 2021. *mRNA vaccines for infectious diseases: principles, delivery and clinical translation*.

PRICING THAT CAN'T BE BEAT

Elegen's ENFINIA™ DNA portfolio offers high-accuracy, NGS-verified Linear, Plasmid, and IVT Ready DNA manufactured entirely in the USA. We are committed to providing highly economical pricing across all our standard and high-complexity sequence options so you can stretch your budget further and drive your research forward. Review the pricing tables below to find the perfect fit for your next project. Additionally, we offer a price match guarantee: ***if you find a lower price elsewhere, we will match it.***

ENFINIA™ Linear DNA

Sequence Length	Standard Complexity	High Complexity	1 - 3 µg	5 - 10 µg	20 - 60 µg
300 - 999 bp	\$100 /seq	\$150 - \$250 /seq	Included	+ \$150 /seq	+ \$250 /seq
1000 - 5499 bp	\$0.07 /bp	\$0.14 - \$0.20 /bp	Included	+ \$150 /seq	+ \$250 /seq
5500 - 7000 bp	\$0.07 /bp	\$0.14 - \$0.20 /bp	Included	+ \$150 /seq	+ \$250 /seq

ENFINIA™ Plasmid DNA

Sequence Length	Standard Complexity	High Complexity	Mini-Prep	Midi-Prep	Maxi-Prep
300 - 999 bp	\$162 /seq	\$190 - \$275 /seq	Included	+ \$125 /seq	+ \$175 /seq
1000 - 4999 bp	\$0.12 /bp	\$0.18 - \$0.25 /bp	Included	+ \$125 /seq	+ \$175 /seq
5000 - 15000 bp	\$0.12 /bp	\$0.18 - \$0.30 /bp	Included	+ \$125 /seq	+ \$175 /seq

ENFINIA Plasmid DNA length range applies to insert/gene sequence. Maximum plasmid length is 19 kb.

ENFINIA Plasmid DNA pricing includes cloning and prep fees.

ENFINIA™ IVT Ready DNA

Sequence Length	Standard Complexity	High Complexity	Poly(A) Tail Fee	10 µg	50 µg
1000 - 5500 bp	\$0.07 /bp	\$0.14 - \$0.20 /bp	+ \$225 /seq	Included	+ \$1050 /seq

ENFINIA PLASMID DNA

Rapid clonal gene synthesis powered by high-accuracy inserts and standardized vectors delivers unmatched speed, length, and complexity at an affordable price.

Up to 15 kb Genes Delivered Fast at an Affordable Price

ENFINIA Plasmid DNA

Standard complexity

- Genes >3 kb typically ship in **10 - 15 business days** for as low as \$0.12/bp

High complexity

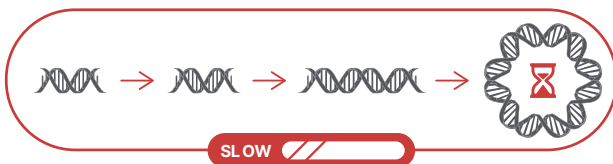
- Genes >3 kb typically ship in **12 - 17 business days** for as low as \$0.18/bp



vs

Other Gene Synthesis Providers >5 kb

- Genes >5 kb can take **over 20 business days**
- Costs range from **\$0.40 to \$0.50/bp**



Clonal Genes Up to 15 kb as Fast as 10 Business Days

Ask about our custom vector onboarding program



NGS-verification included



Complex genes/inserts up to 15 kb
(max plasmid length of 18 kb)



Prep options available:

- Mini-prep, Midi-prep, and Maxi-prep



Standard backbones including:

- pAAV2
(with CMV, CAG, hSyn promoters or ITRs only)
- pUC19
(KAN and AMP markers)
- pBR322
- psaRNA
- pET28
- pcDNA3.1
- pET 17
- pET 24
- psa_RNACleanCap
- 8 Nuclera Circular eGene Templates



Natural Products

Save weeks with fast synthesis of full-length biosynthetic gene clusters (BGCs).



Cell & Gene Therapy

Optimize AAV constructs and accelerate CAR and TCR development.



RNA Therapeutics

Screen replicase and transgene variations faster with full-length saRNA templates.

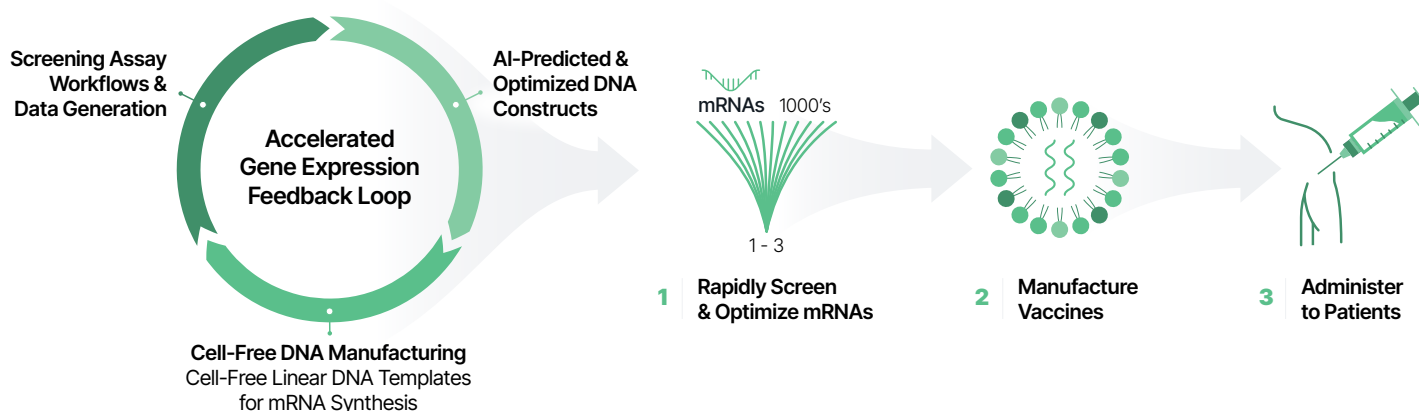
mRNA Vaccines

High-quality DNA templates for rapid vaccine development for infectious diseases and cancer.



The Need for Speed in mRNA Vaccine Development. Rapid access to high-quality DNA templates is essential, as they are the foundational starting material for mRNA production. Fast access to diverse, complex DNA is critical to speeding up the mRNA screening and optimization process for time-sensitive applications like critical diseases and cancer treatments.

- **Prophylactic Vaccines:** The SARS-CoV-2 vaccines demonstrated the incredible speed at which mRNA vaccines can be produced during an emergency. To maintain this rapid pace for all infectious diseases, quick access to high-quality DNA templates is required to screen and optimize mRNA candidates.



Rapid production of DNA template libraries fuels mRNA screening cycles for optimized expression and stability, accelerating the path from bench to clinic—critical for rapid-response vaccines and personalized cancer therapies.

- **Personalized Cancer Vaccines (PCVs):** Speed is critical from mRNA production to patient delivery. PCVs prime the immune system to recognize and attack tumor mutations before the cancer can adapt, operating on a tight timeline of just a few weeks. Any delay in obtaining DNA slows down vaccine manufacturing directly.

The Elegen Advantage

We deliver long, complex, NGS-verified **ENFINIA™ IVT Ready DNA** in as few as 10 business days. These reaction-ready templates have an encoded poly(A) tail, pose no endotoxin risks, require no linearization, and allow you to quickly test diverse sequence designs.

APPLICATIONS

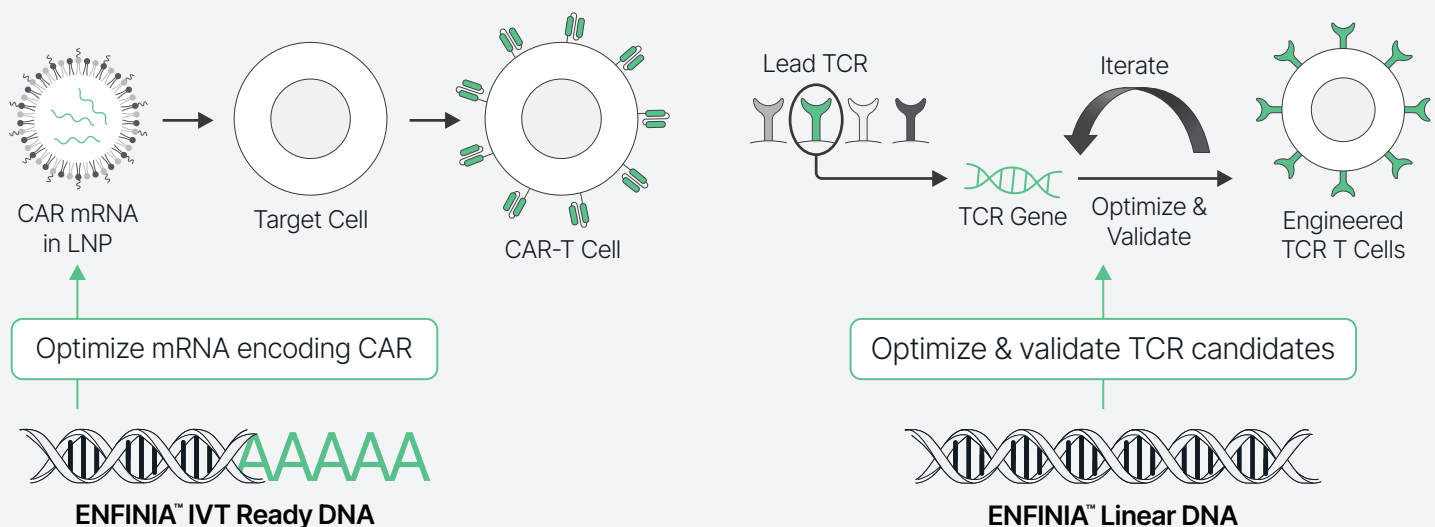
Cell and Gene Therapies and Genome Editing

Dependable DNA for advanced therapy development.

WEBINAR
Next-Level Cell Free
DNA Manufacturing



ENFINIA™ DNA offers unparalleled versatility for cell and gene therapy development, providing speed, NGS-verified fidelity, and cost-efficiency. For *in vivo* CAR-T therapies, researchers can rapidly optimize CAR-encoding mRNA for *in situ* therapeutic T-cell generation using **ENFINIA™ IVT Ready DNA**. For TCR therapies, high-complexity ENFINIA™ Linear DNA provides NGS-verified fragments ready for immediate downstream use, ensuring fast, reliable validation of novel receptor candidates without the delay of traditional cloning.



Elegen's molecular versatility extends directly into advanced genome editing:

- **Vector-Mediated Delivery:** With a generous capacity up to 15 kb and fast turnarounds, **ENFINIA™ Plasmid DNA** is ideal for producing viral vectors, such as AAV or lentivirus.
- **mRNA-Mediated Delivery:** Drive high-efficiency mRNA production of diverse nucleases—including Cas9, base editors, or gene writers—using transcription-ready **ENFINIA IVT Ready DNA**. These templates support payloads up to 5.5 kb for transient *in vivo* genome editing.
- **HDR-Mediated Knock-ins:** **ENFINIA Linear DNA** serves as an exceptionally fast, sequence-verified dsDNA repair template (up to 7 kb) for HDR.

The Elegen Advantage

Success in advanced therapies demands rapid iteration, but traditional cell-based DNA synthesis often creates weeks-long bottlenecks. Elegen eliminates these delays by leveraging our cell-free process to deliver long, complex, NGS-verified DNA in as few as 6 business days.

APPLICATIONS

Antibody Discovery & Protein Engineering

High-Fidelity DNA for Rapid Protein Optimization.

DNA is the essential blueprint for the next generation of antibodies and therapeutic proteins. **ENFINIA™ Linear DNA** integrates seamlessly into your workflow, eliminating the bottlenecks of traditional cloning.

- **Linear Expression Templates:**

Bypass time-consuming plasmid cloning. Use NGS-verified linear DNA for direct transfection into cells or cell-free protein expression (CFPE).

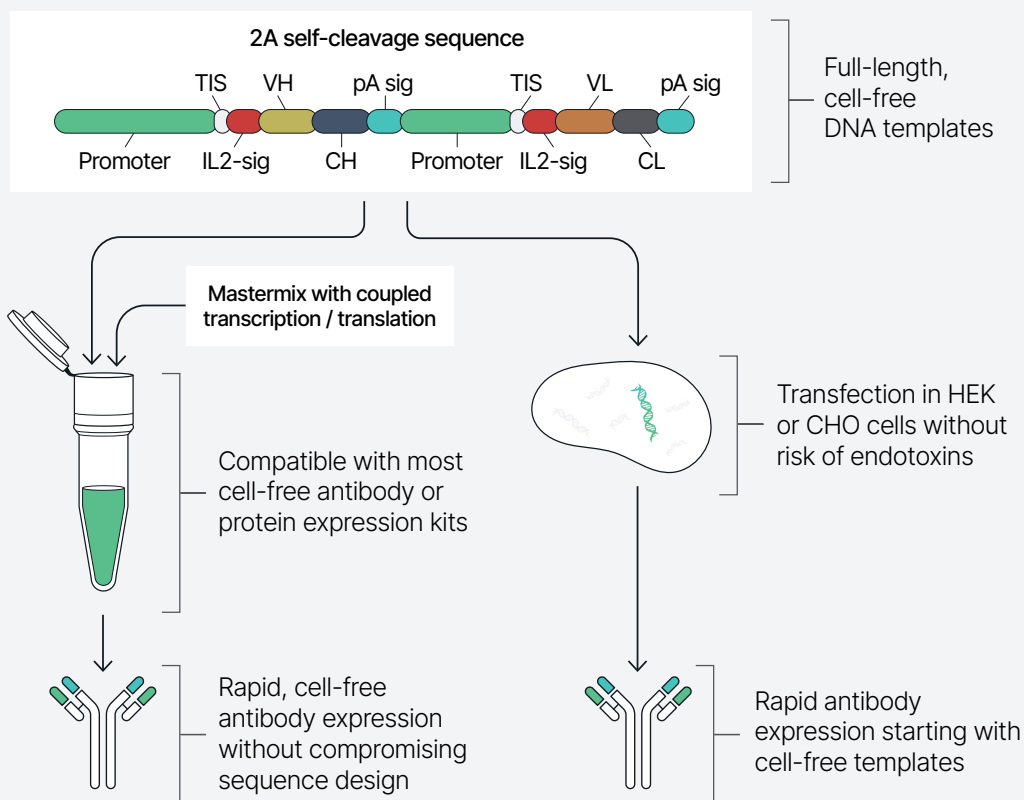
- **Complex Library Generation:**

Effortlessly encode full-length heavy and light chains, including those with complex variable and constant region mutations.

- **Speed to Result:**

Move from sequence design to functional protein analysis in a fraction of the time required by traditional workflows.

Cell-Free DNA Templates for Rapid Antibody Expression



For researchers focused on transient expression, **ENFINIA™ IVT Ready DNA** serves as an optimized, high-purity template for mRNA generation through *in vitro* transcription. For sustained, long-term expression, **ENFINIA™ Plasmid DNA** provides the sequence integrity essential for constructing robust AAV vectors.

The Elegen Advantage

We replace biological constraints with chemical precision. By delivering clonal-grade DNA at the speed of fragments, we enable you to move from digital design to functional protein analysis fast—no more waiting around for DNA to arrive.



ELEGEN

Elegen employs innovative technologies to all steps of DNA synthesis to deliver custom synthetic DNA with unprecedented speed, quality, and length to help the builders of our growing bioeconomy unlock programmable biology.

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May 2026

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