ELEGEN

# ENFINIA™ DNA

# How We Make 7 kb in 6 Days

In just 6 business days, we can create linear DNA up to 7 kb in length — without conventional cell-based cloning. Our patented cell-free cloning technology involves 0 plasmids, 0 transformed cells, 0 selections on antibiotics, 0 picked colonies, and 0 prepped plasmids to quickly and reliably deliver high-quality, sequence-perfect DNA.

WHAT WE DO:

**Make linear DNA up to 7 kb in length as fast as 6 business days.**

Our process, powered by our unique and proprietary technology, sets us apart from other DNA suppliers. It enables the production of long, complex, linear DNA without relying on cells — or the lengthy timelines required for their growth.

In our end-to-end cell-free DNA manufacturing process, we use synthetic oligonucleotides to generate short double-stranded (ds) DNA blocks. These blocks are fragments of the full-length target DNA sequence you ordered. The blocks are screened individually for quality before gene assembly.

Blocks are assembled into full-length gene or multi-gene constructs (up to 7 kb in length) and sequenced. We then use a proprietary process to identify, isolate, and replicate a single perfect molecular clone with the correct full-length DNA sequence.

This results in a 95% pure population of sequence-perfect DNA for each sequence ordered, with a short 46 bp and 42 bp adapter sequence appended to the 5′ and 3′ ends, respectively. Before shipment, we perform next-generation sequencing (NGS) to validate the purity, accuracy, and length of each DNA sequence ordered. This automated, miniaturized method generates NGS-verified, high-complexity linear DNA up to 7 kb, ready for downstream use with minimal cloning. This allows researchers to save days to weeks of time building DNA for various applications, including viral vector transfection and *in vitro* transcription for mRNA synthesis.

WHAT WE DON'T DO:

**We will never ship you low-quality, low-accuracy linear DNA or linear DNA that has been cloned in cells.**

While clonal gene synthesis suppliers may produce multi-kb DNA by synthesizing and assembling fragments of your full-length target sequence, they do not use a cell-free workflow: These fragments are assembled *in vitro*, cloned into a plasmid, and transformed into competent cells followed by a multi-day selection, screening, and sequencing workflow. This approach often takes longer as complexity increases (hairpins, homopolymers, repeats low/high %GC content).

ELEGEN | INNOVATION IS OUR **DNA**

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Order Now

ecommerce.elegen.com