

## Custom Gene Synthesis

The availability of sequences of entire genomes has dramatically increased the number of protein targets, many of which will need to be overexpressed in cells other than the original source of DNA. Gene synthesis often provides a fast and economically efficient approach. The synthetic gene can be optimized for expression and constructed for easy mutational manipulation without regard to the parent genome. Yet design and construction of synthetic genes, especially those coding for large proteins, can be a slow, difficult and confusing process.

Through many years of experience in synthetic gene construction, Retrogen has developed a proprietary system by integrating software, instrumentation and protocols that allows us to complete any gene size at a very rapid turnaround time. With this proprietary system Retrogen can offer you complete gene synthesis service, from optimizing the codon to confirming the sequence of the synthetic gene at a very competitive price.

### Gene Synthesis Price:

\$1.25 - \$1.50 per bp

### Gene Synthesis Turnaround:

Up to 1 kb   2-3 Weeks

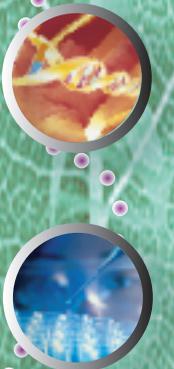
Larger than 1kb  Please call for turnaround

Price depends on difficulty of gene and number of genes per order.  
Discounts are available for multiple-gene orders. Please call for custom pricing.

### Advantages to Retrogen's Custom Gene Synthesis:

- ▶ Optimized gene sequences
- ▶ All primers are designed and synthesized
- ▶ RNA secondary structures are minimized
- ▶ Restriction sites are added and/or removed
- ▶ We guarantee full sequence verification of both strands
- ▶ Fast Turnaround

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### Specifications for Custom Gene Synthesis:

Minimum Sequence Length: <input type="checkbox"/> <input type="checkbox"/>	100 base pairs
Maximum Sequence Length: <input type="checkbox"/>	15,000 base pairs
Gene Optimization Options: <input type="checkbox"/> <input type="checkbox"/>	Codon preference for host organism, secondary structure removal, GC content adjustment, addition or removal of restrictions sites.
Starting Material: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Email the sequence to <a href="mailto:gene@retrogen.com">gene@retrogen.com</a> .
Gene Construction : <input type="checkbox"/> <input type="checkbox"/>	Proprietary gene synthesis software is used to design and construct the entire gene. The synthetic gene is cloned into a PCR blunt vector. Subcloning into a customer-provided vector is available at an additional charge.
DNA Sequencing: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Both strands are sequenced to verify the integrity of the synthetic gene.
Final Form of Construct: <input type="checkbox"/> <input type="checkbox"/>	20 µg of lyophilized plasmid DNA containing the synthetic gene.
Results: <input type="checkbox"/>	A complete report of gene construction. A plasmid map and printout of assembly report and chromatograms from automated sequencers.

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