

GUIDE

Gene Synthesis 2.0 Ordering Guide

SPRINT | FLEX | FLEX+

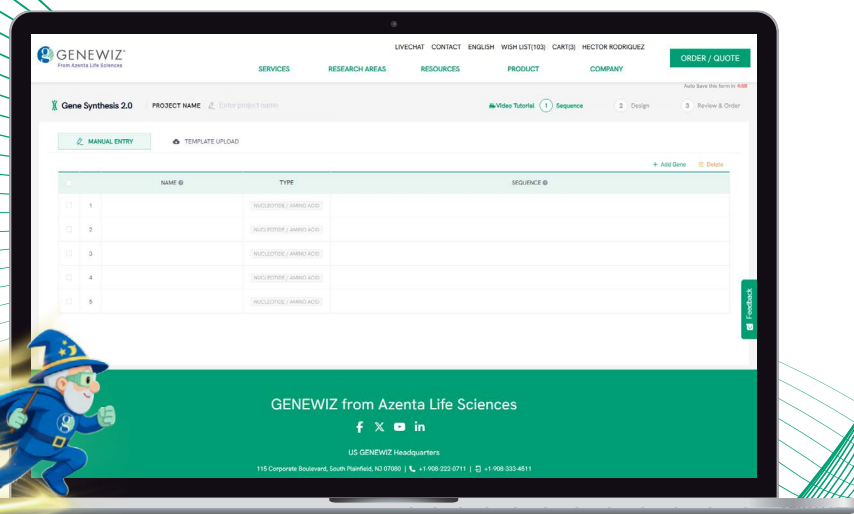


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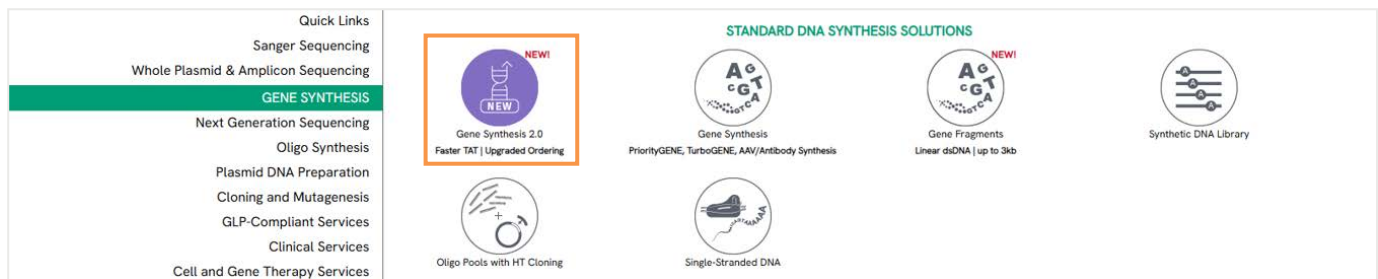
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GENE SYNTHESIS 2.0 ORDERING GUIDE

This guide will walk you through the Gene Synthesis 2.0 ordering workflow, from sequence input to checkout. The redesigned experience allows you to order within **three minutes**. Simply follow the steps below and check out.

1 Getting Started

[Log in to your CLIMS account.](#) In the left-hand navigation, open the Gene Synthesis tab and select Gene Synthesis 2.0 to enter the new ordering form.



2 Project Setup & Sequence Input

Assign a project name (if required), then enter your gene sequences. The platform supports both nucleotide and amino acid sequences, and they can be mixed within a single project.

Enter sequences manually, or — for bulk orders — download a template and upload your sequences in batch. As soon as sequences are entered, the system runs automatic validation, flagging invalid characters and duplicate entries. Once everything is clear, continue to the next step.

TIP: *Uploading in batch from a template is the fastest way to start a large order.*

The screenshot shows the 'Gene Synthesis 2.0' project setup interface. At the top, there's a 'PROJECT NAME' field with a placeholder 'Enter project name' and an 'Assign Project Name' button. Below this, there are two tabs: 'MANUAL ENTRY' (selected) and 'TEMPLATE UPLOAD'. A title 'Manual Entry vs. Template Upload' is displayed. The main area contains a table for entering sequences.

	NAME	TYPE	SEQUENCE	LENGTH
1		NUCLEOTIDE / AMINO ACID		
2		NUCLEOTIDE / AMINO ACID		
3		NUCLEOTIDE / AMINO ACID		
4		NUCLEOTIDE / AMINO ACID		
5		NUCLEOTIDE / AMINO ACID		

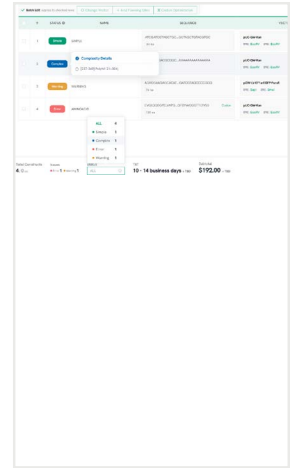
At the top right of the table area, there are links for '+ Add Gene' and 'Delete'.

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3 Construct Design

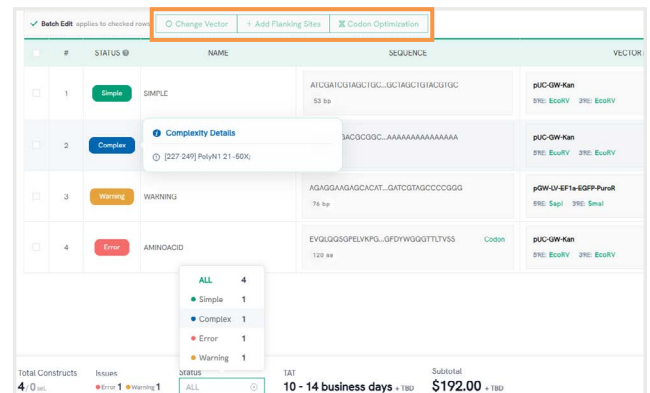
Next, you can design and customize your constructs by adding flanking sites, applying codon optimization, and selecting your preferred vectors and cloning strategies. Each sequence is assigned a status (simple, complex, warning or error) so you can quickly identify any items that need attention. Hover over the status bar to view additional details, including warning or error messages and the specific regions contributing to sequence complexity.

All warnings and errors are consolidated in a review panel located in the bottom left corner, and you can filter to focus only on the sequences that need attention.



BULK VS. SEQUENCE-LEVEL EDITS

Bulk edits: Select multiple sequences that share the same design and apply changes, such as codon optimization, vector selection or flanking sites, directly from the toolbar located on the top left corner.



Sequence-level edits: Click an individual sequence to open its configuration page, where you can visualize the sequence, add flanking sites, run codon optimization, and modify the cloning strategy. From the title column, you can also copy one design strategy and apply it across multiple sequences.

STATUS	NAME	SEQUENCE
Simple	SIMPLE	AGCATGTACGTGCTGATGTACGTGATGCGAGTAGCGATGT...
Complex	COMPLEX	CGATGTAGCGATGATGAGTGCATCAGTGTGTGTGTGTGT...
Warning	WARNING	AGCATGTACGTGCTGATGTACGTGATGCGAGTAGCGATGT...

Click to Open



Back COMPLEX

PolyNT 21-SOX[29-54]

Codon Optimization

Optimization Region: 1 Start 54 End

Expression Host: Saito

Restriction Sites to Exclude: EcoRV

Optimize Now

VECTOR: pUC-GW-Kan

Generate Construct Preview

Flanking Sites

Codon Optimization

Vector & Cloning

Add Flanks

3 Construct Design (continued)

CODON OPTIMIZATION

In the sequence configuration window, select from over 20 host species and exclude specific restriction sites as needed. Click 'Optimize Now' to generate results, which can then be downloaded as a report.

VECTORS & CLONING STRATEGY

Select your vectors and define your cloning strategy. In the vector module, you can choose from several libraries:

- **GENEWIZ Vector Library:** Ready-to-clone vectors provided by GENEWIZ
- **My Vector Library:** Vectors you have onboarded and stored with GENEWIZ
- **My Clone Library:** Clones generated from your previous GENEWIZ projects
- **Shared Library:** Shared vectors and clones from your group or institution
- **Onboard New Vector(s):** Onboard a new vector with GENEWIZ for free. Enter your vector information at this step; submission instructions are provided after checkout.

For all vectors, you can download the vector reference sequence (if provided), directly from the vector module by clicking the download icon in the top-right corner next to the vector name.

CLONING STRATEGY SELECTION

We support two standard cloning strategies.

1 • Restriction Enzyme Cloning

Select the restriction enzymes you would like to use at the 5' and 3' ends of your insert. Available enzymes are automatically suggested based on the vector backbone reference sequence. Once selected, the corresponding restriction enzyme sequences are automatically added to the insert sequence and included in the cloning design.

Download vector sequence here

Cloning Strategy Vector: pGW-LV-CMV-PuroR

☐ Cloning strategy not applicable

Restriction Enzyme
Select 5' and 3' restriction sites

Homology Arm
Provide 5' and 3' homology arms

* 5' restriction site
NheI

* 3' restriction site
XbaI

PstI	1
RsrII	1
SalDI	1
Scal	1
SgrAI	1
SspI	1
Tth111I	1
XbaI	1

Recommend

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3 Construct Design (continued)

2 ·Seamless (Homology Arm) Cloning

Paste the sequences for your 5' and 3' homology arms into the corresponding fields to guide insertion of your sequence into the vector.

OTHER OR CUSTOM CLONING STRATEGIES

Need a different cloning strategy such as *de novo* synthesis (circularization), Golden Gate cloning, or another custom method? Our team can help design the appropriate approach. Select 'Cloning Strategy Not Applicable' at the top and either:

- Enter your cloning requirements.
- Describe the support you need from our team.
- Paste the complete final construct sequence.

Continue by selecting 'Request a Quote.' Our team will review your project and follow up with the recommended cloning design, pricing, and turnaround time.

CONSTRUCT VISUALIZATION

Our construct visualization tool guides you through the cloning design process. You can visualize the vector sequences, review and select restriction enzyme sites, highlight the 5' and 3' homology arms, and confirm the intended insertion location and cloning strategy.

Cloning Strategy Vector: **pGW-LV-CMV-PuroR** 

☐ Cloning strategy not applicable

Restriction Enzyme
 Select 5' and 3' restriction sites

Homology Arm
 Provide 5' and 3' homology arms

* 5' Homology Arm Sequence 

AGCACACCGAGACGGTCGACCTGAGGAGATC

32 bp Near-insert 25bp GC: 64%

* 3' Homology Arm Sequence 

GGAATGCATTCTAGACATGTCCAATGACCGC

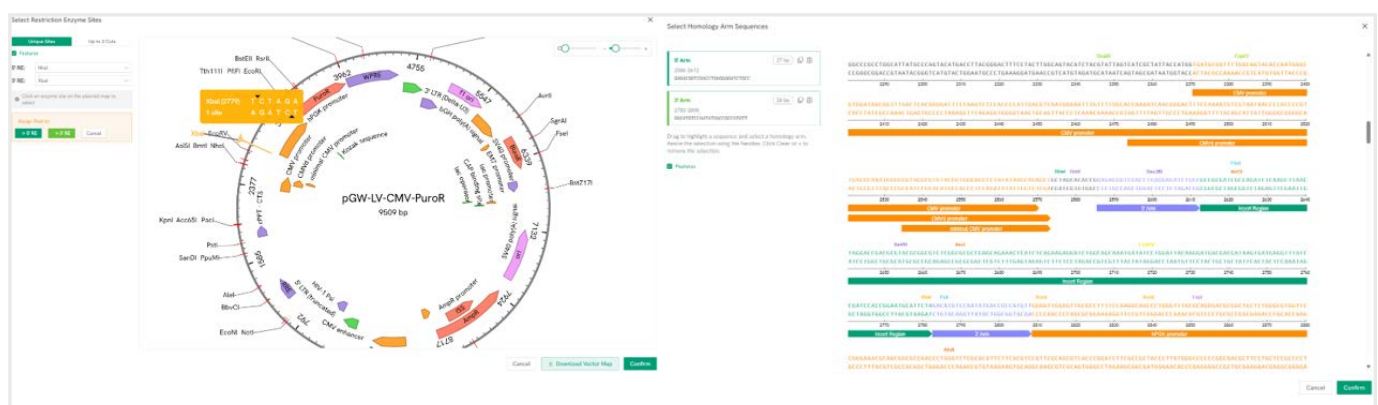
33 bp Near-insert 25bp GC: 40%

9.5 kb

5' Arm Insert 3' Arm

Open vector map to visually pick homology arm regions

[Open Map & Annotations >](#)



In the sequence configuration page (by clicking your insert sequence), you can also visualize the complete final construct sequence, including the vector backbone, insert, cloning junctions, restriction sites, and homology arms. To review or download the final construct sequence, click 'Generate Construct Preview' for the selected construct.

CHOOSE THE PACKAGE

Back on the main page, select the package that best fits your needs. Constructs that don't qualify for SPRINT will show that option greyed out, along with the reason. Real-time pricing and turnaround time update automatically based on your selections.

PACKAGE	BEST FOR
SPRINT	Short, simple sequences up to 3 kb using a standard vector backbone
FLEX	Any sequence with any vector
FLEX+	Expedited turnaround times for any sequence with any vector

NOTE: The displayed price and turnaround time apply to gene synthesis only. Additional costs and turnaround time may apply based on the selected vector, add-ons, and scale-up plasmid preparation options. The complete price and turnaround time will be shown in the next step.

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4 Order Details & Add-ons

Here you can choose plasmid preparation scales and any add-on services, such as endotoxin-free production and whole plasmid sequencing, plus delivery specifications including normalization, format, and buffer conditions. These selections apply across all sequences in your project.

When your selections are complete, the total project price appears in the pricing summary panel on the right, with a detailed breakdown by service. Apply any available coupons or promotional codes at this stage. You can also preview and download a quote, and export your sequences (inserts, optimized sequences, and final construct sequences) in Excel format for your records.

TIP: Projects requiring custom cloning or additional review can be submitted through 'Request a Quote' instead of direct checkout. Our Project Management Team will contact you within 1 business day with more information.

NOTE: Add-ons and delivery specifications apply to every sequence in the project. Review them before checkout to be sure they suit all constructs in the order.

When everything looks good, save your order or add the project to your cart and proceed to checkout.

The screenshot displays the 'Review & Order' interface for Gene Synthesis 2.0. The left panel, labeled 'Plasmid Prep & Add-ons', contains several sections: 'Plasmid DNA Preparation' with options from Mini (\$0) to Giga (\$400); 'Plasmid Prep Add-ons' including Endotoxin-free (+\$21) and Sterility Testing (+\$15.5); 'Whole Plasmid Sequencing' (Oxford Nanopore) for +\$15; 'DELIVERY SPECIFICATIONS' with Glycerol Stock (+\$10) and Delivery Format (Dry or Liquid, both +\$0). A 'Pro' button is located at the top right of this panel. The right panel, 'PRICING SUMMARY', provides a detailed cost breakdown: Gene Synthesis (\$172.00), Cloning (\$30), Plasmid (\$30.00), Delivery (\$30.00), and Shipment (\$25.00), totaling a Subtotal of \$242.50. Below this, there is a 'Coupon' field, 'Download Quote' and 'Download Sequence' buttons, and a 'Need Help?' section with contact information. At the bottom right, navigation buttons include 'Back', 'Save', and 'Add to Cart'.

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5 Checkout

At checkout, you will be guided through any required sample submission instructions for onboarding new vectors, whether you choose to ship samples to us or drop them off at a local GENEWIZ dropbox.

You will then enter your shipping and billing information and select a payment method, including credit card, purchase order, or GENEWIZ prepayment.

Once you have reviewed and confirmed all details, simply place your order—and we will take it from there!

The screenshot displays the checkout interface with four main sections:

- Sample Submission/Placeholder:** Includes a dropdown for 'Ship Samples to GENEWIZ Lab' and a map showing the location of the nearest GENEWIZ dropbox.
- Shipping Address:** Lists the shipping address for the order, including the company name, address, city, state, and zip code.
- Payment Type:** Offers options for Credit Card, PO, or GENEWIZ Prepayment. It includes a field for the PO Number and a checkbox for 'Save this PO for future use'.
- Billing Address:** Displays the billing address for the order, including the company name, address, city, state, and zip code.

Sample Submission

Shipping Address

Payment Method

Support

Need help? Our team is available at any point during the ordering process. Reach out through whichever channel is most convenient.

- **Live chat:** available at [genewiz.com](https://www.genewiz.com)
- **Phone:** Toll-free +1 (877) 436-3949; +1 (908) 222-0711
- **Email:** gs@azenta.com

8-Day Antibodies

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STREAMLINE GENE-TO-EXPRESSION



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