BioXp™ Multi Vector Custom Cloning

What is BioXp™ Custom Cloning?

The BioXp™ System automates the cloning of 32 synthetic genes directly into any vector up to 12 kb using Gibson Assembly® methodology. This application eliminates subcloning, saving time and effort.

How do I prepare for my BioXp™ Custom Cloning submission?

Design DNA fragments and vectors with homologous overlaps to enable Gibson Assembly® cloning on the BioXp™ system. Vector linearization prep protocols are available online [**pdf**].

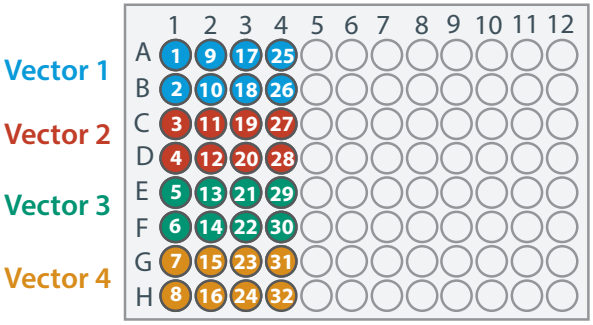
Contact **customerservice@sgidna.com** if you need help with the design.

Tips for BioXp™ Custom Cloning

- Linearize your vector by restriction enzyme digestion or PCR.
- Qualify and prepare your vector for the BioXp System according to the guidelines presented in the **Custom Cloning Vector Preparation Guide**.
- Before submitting your order in the online portal, organize your insert sequences according to the order in which they will be built on the BioXp System.

Step 1: Organize your FASTA file

- DNA is built sequentially by columns on a BioXp plate (A1–H1, A2–H2, etc.) and vectors are incorporated into the plate by rows. Sequences must be submitted in the correct order in the FASTA file, according to vector location:



- When you input your insert sequences into the ordering portal, enter the sequences in FASTA format in the order they will be built on the plate:

  Sequence 1/Vector 1 [well A1]
  Sequence 2/Vector 1 [well B1]
  Sequence 3/Vector 2 [well C1]
  Sequence 4/Vector 2 [well D1]
  Sequence 5/Vector 3 [well E1]...

  If you do not plan to build sequences in all wells of a column, add spacer sequences corresponding to the empty wells of that column.

  An example spacer sequence is:

  >Spacer1
  GGAAGTTTGTCTAGATCTCAGGCGTGGATG

Step 2: Load BioXp components according to protocol

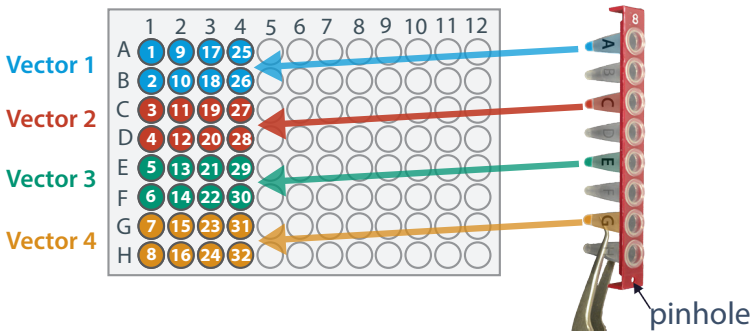
Step 3: Determine the proper quantity of vector to load

Load enough vector in the appropriate wells of the strip to accommodate the number of reactions in the plate, including spacer sequences.

Number of BioXp™ Cloning Reactions	Volume
≤16 Reactions	12 µL
>16 Reactions	18 µL

Step 4: Load Vectors in Correct Orientation

Add the appropriate linearized vector to wells A, C, E, and G of the BioXp™ Vector strip. Do not seal the strip.



Technical Services	For technical assistance, please contact technical services at techservices@sgidna.com
Trademark	BioXp™ is a trademark and Gibson Assembly® is a registered trademark of SGI-DNA.
	Gibson Assembly® US Patent Nos. 7,776,532, 8,435,736, and 8,968,999

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