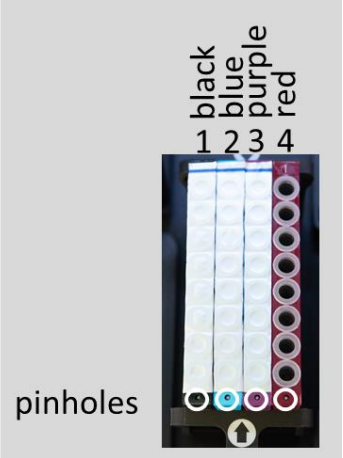
BioXp™ Loading Map and Checklist – RapidAMP

Each BioXp™ RapidAMP kit includes Module A (+4°C), Module B (−20°C), and Module C (−20°C).

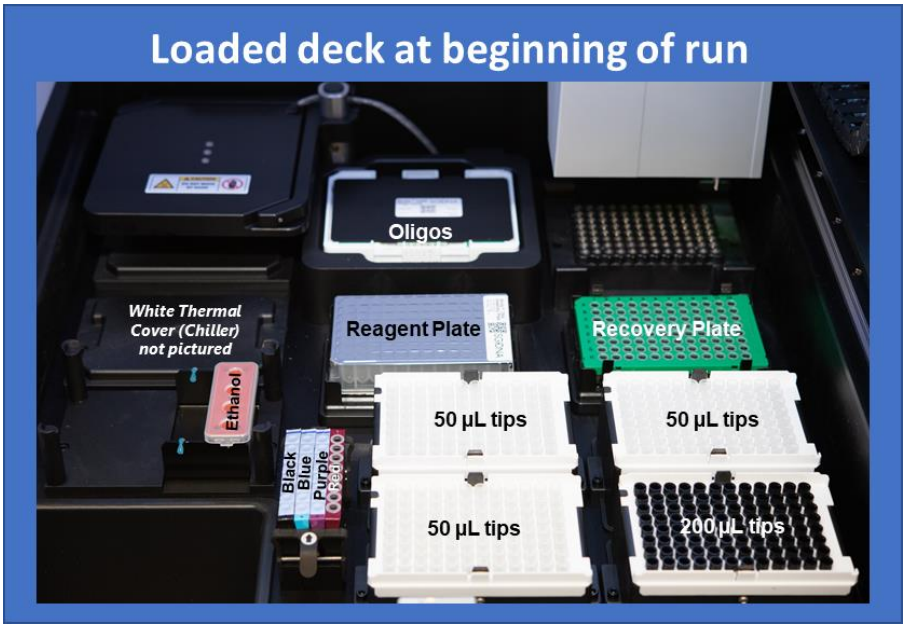
1. If the door is closed, select "Unlock Door" from the instrument LCD screen and open the door
2. Thaw −20°C components as directed below:
   - DNA Assembly Reagent Plate (at 25°C for 1 hour or on ice for at least 3 hours)
   - GA Cloning Strip and RapidAMP Strip (15 minutes on ice)
3. Load tips by aligning the tip tray notch with the upper left corner of each Tip Tray Retainer
   - ☐ Load 3 x 50 µL tips
   - ☐ Load 1 x 200 µL tips
4. Add a minimum of 12 mL freshly prepared 70% ethanol to the reusable Ethanol Reservoir
   - ☐ Load Ethanol Reservoir in the right-most Reservoir Retainer position of the instrument deck

     Note: Do not discard the Ethanol Reservoir after the run; keep for future use
5. Load plates stored at 4°C:
   - ☐ Load the Recovery Plate onto the Recovery Chiller with the notch in the upper left corner
   - ☐ Load the Oligo Vault™ Plate with the notch positioned in the upper left corner of the Thermocycler
6. Vortex the thawed strips for 10 seconds and then briefly spin the strips. Visually inspect the wells to ensure that they are completely thawed. Load strips in the order listed and shown below, with the strip pinhole closest to the front of the instrument
   - ☐ Load the black DNA Purification Strip into position #1
   - ☐ Load the blue RapidAMP Strip into position #2
   - ☐ Load the purple GA Cloning Strip into position #3
   - ☐ Load the red Custom Vector Strip into position #4



7. Secure strips with spring-loaded arms while holding the strips in place.
8. Spin the thawed DNA Assembly Reagent Plate for 1 minute at 500 rpm. Visually inspect the wells to ensure that they are completely thawed.
   - ☐ Load DNA Assembly Reagent Plate onto Reagent Chiller, notch in the lower left corner and barcode on the right

     Note: Be certain that the plate is properly seated within the chiller.
9. Refer to the photo below. Confirm that components are securely seated. Close the door.
10. After the deck inspection ends, press Start Now or Delay Start (no more than 2 hours) to begin the run.



Guidelines to prepare the BioXp™ custom vector strip

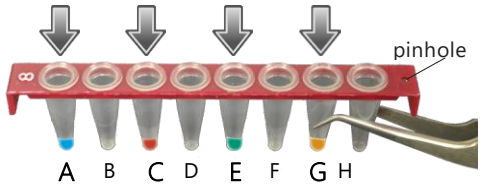
1. Adjust the vector concentration according to the table:

Vector Size (kb)	Concentration (ng/µL)
3–5	≥15
5–7	≥20
7–9	≥25
9–12	≥30

2. Determine the volume of prepared linear vector you will add to wells A, C, E, and G of a BioXp™ Vector strip.

Number of Cloning Reactions	Volume
≤16 Reactions	13 µL per well
>16 Reactions	21 µL per well

Add 13 or 21 µL of prepared linear vector to wells A, C, E and G of a BioXp™ Vector strip. Do not seal the strip. Ensure that no air bubbles have been introduced and that the resuspended vector is at the bottom of the strip wells.



EXAMPLE: To prepare the vector strip for 8 cloning reactions, prepare a 10 kb vector at a concentration of 30ng/µL. Add 13 µL of prepared vector to the four strip wells (A, C, E and G).
Total amount of required vector = 1.56 µg.

Final DNA product location

Deck at run completion	At the end of the run, save the following items:
	• Recovery Plate– All DNA products are now located in the Recovery Plate at the end of the run. Seal and store the Recovery Plate at 2°C to 8°C for up to one week or at -20°C for up to one year. • Ethanol Reservoir– Empty and dry for next use • Tips – Keep unused tips for future runs

Recovery Plate contents and location	
RapidAMP Reaction	Unamplified Tiles
Wells A1–H3	Wells A5–H7

Recommendations

Analyze Tiles

We recommend evaluating the success of the assembly reaction by running a gel containing the unamplified BioXp™ Tiles from the Recovery Plate before moving forward with RapidAMP DNA.

Next Steps

Refer to the **BioXP Gibson Assembly RapidAMP Design Guidelines and Downstream Recommendations** document for guidance on working with RapidAMP product.

Additional product information is available at www.sgidna.com/bioxp

Technical Services techservices@sgidna.com

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