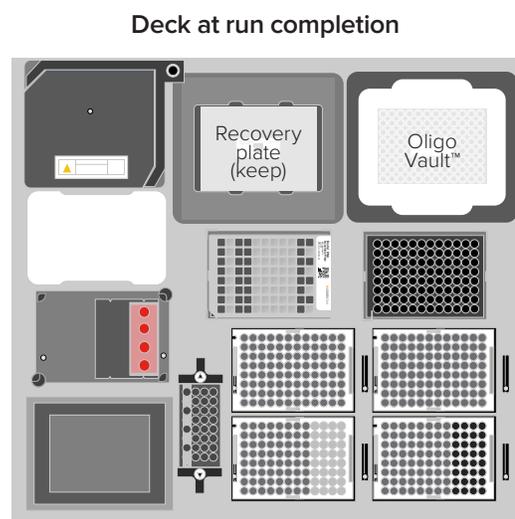
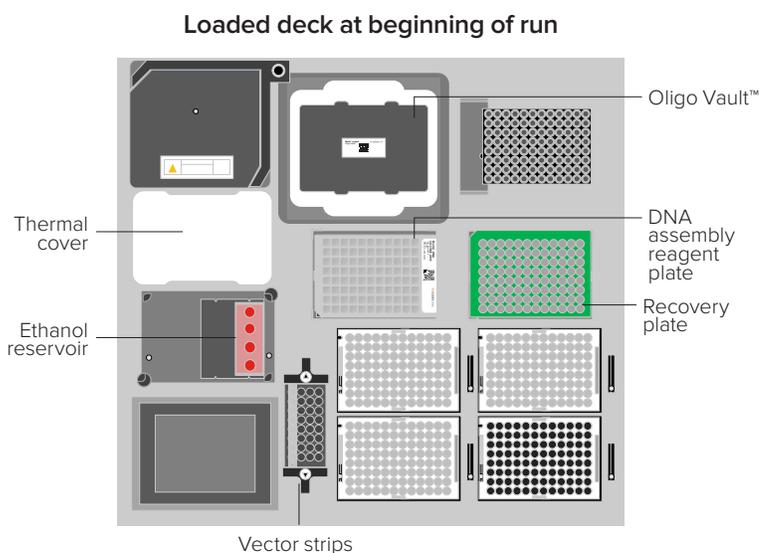


BioXp™ gene fragments and variant libraries — Loading map and checklist

Each BioXp™ gene fragment or variant library project includes module A (+4 °C) and module B (–20 °C).

Loading the BioXp™ system

1. If the door is closed, select *Unlock Door* from the instrument LCD screen and open the door.
2. Thaw the **DNA assembly reagent plate** (at 25 °C for one hour or on ice for at least three hours).
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 so that the notch is positioned in the **upper left corner** of the thermocycler.
6. Briefly spin the **DNA purification strip**.
 - Load the black **DNA purification strip** into the #1 position (left-most) with the strip pinhole closest to the front of the instrument.
7. **Secure strips with the spring-loaded arms while holding strips securely in place.**
8. Spin the thawed **DNA assembly reagent plate** for one minute at 500 rpm.
Visually inspect the wells to ensure that they are completely thawed before loading the plate.
 - Load **DNA assembly reagent plate** onto reagent chiller and notch in the **lower left corner**.
Note: Be certain that the plate is properly seated within the chiller and that the barcode is on the right.
9. Refer to the image in the lower left panel below. Confirm that all components are securely seated. Close the door.
10. After the deck inspection, press **Start** to begin the run.



Final DNA product location

At the end of the run, save the following items:

- **Recovery plate** – BioXp™ fragments or libraries (final assembly products) are located in wells A1-H4 of the recovery plate within the thermocycler.
- 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.
- See plate map provided with oligo vault shipment for specific locations of each fragment and final product.
- Fragments and libraries are provided in 45 µL TE buffer. The expected yield is > 200 ng of purified, linear DNA.
- **Ethanol reservoir** — empty and dry for next use
- **Tip waste bin**

Expected results

To evaluate the success of the assembly reaction, analyze by gel electrophoresis. Gel examples are shown below. The image on the left shows the assembled fragment clearly distinguishable without the presence of secondary bands. If you observe similar results, proceed directly to downstream applications of your choice. The gel on the right shows multiple bands. In this case, we recommend gel-purifying the desired fragment band to remove by-products before proceeding.

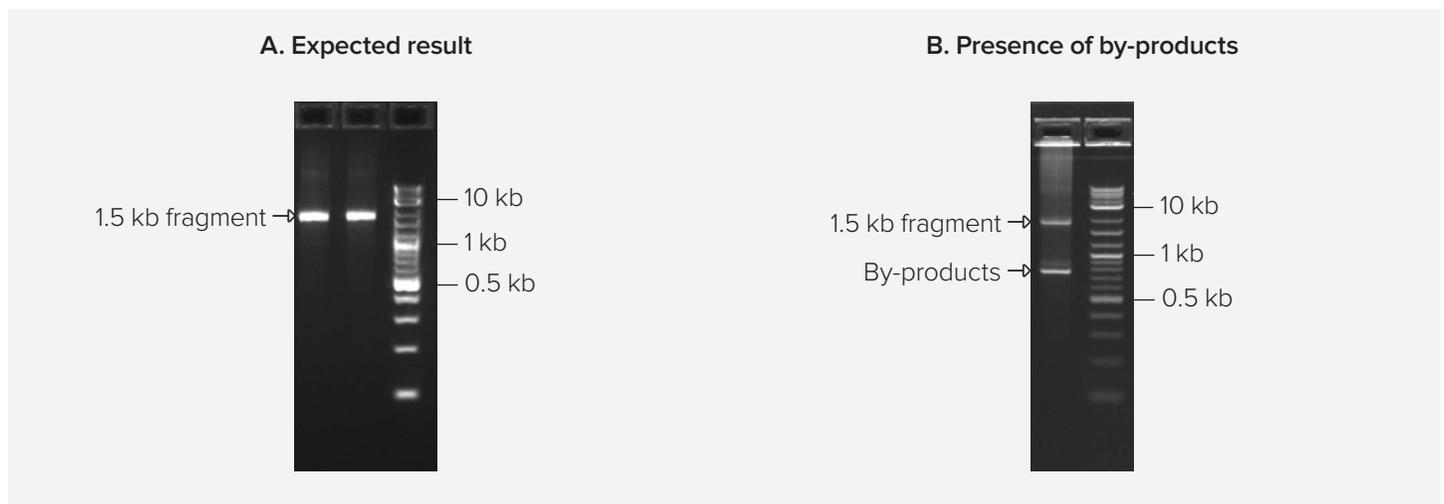


Figure 1. Representative electrophoresis results.