

## BioXp™ small-scale mRNA synthesis kit — Loading map checklist and product location

Each BioXp™ small-scale mRNA synthesis kit includes *module A* (4 °C), *module E* (–20 °C), and *module F* (4 °C). Wear gloves throughout.

### Preparing the BioXp™ system for a run

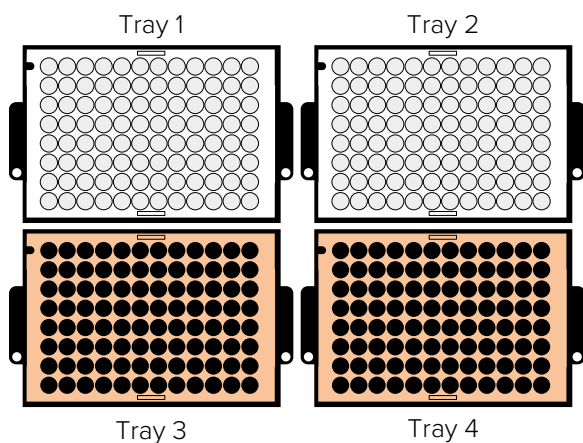
#### 1. Preparing the BioXp™ system for mRNA synthesis

- Spray an RNase decontamination solution, such as RNase AWAY™ (Thermo Fisher cat. no 7000TS1), onto a lint-free wipe and decontaminate the exposed BioXp™ system surfaces, including the four pipettors of the pipette head. Do not spray directly into the BioXp™ system.
- Spray 70% ethanol (RNase-free) or 70% isopropanol (RNase-free) onto a lint-free wipe and clean the same surfaces. Do not spray directly into the BioXp™ system.

#### 2. Thaw mRNA synthesis plate (stored at –20 °C) at 25 °C for 30 minutes.

#### 3. Load fresh (unopened) tips by aligning the tip tray notch with the upper left corner of each tip tray retainer.

- Load 2 × 50 µL tips (trays 1 and 2)
- Load 2 × 200 µL tips (trays 3 and 4)



#### 4. Freshly prepare a minimum of 12 mL of 70% ethanol using nuclease-free water. Add to the reusable ethanol reservoir.

- Load ethanol reservoir in the rightmost 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.

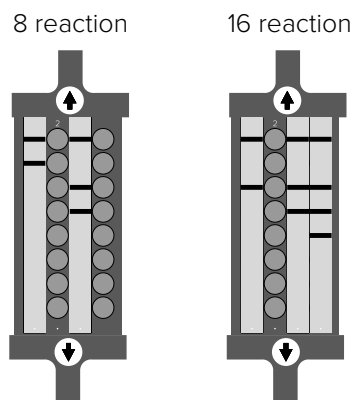
#### 6. Briefly spin the DNA purification strip and the RNA purification strip(s). Load strips in the order listed and shown below, with the strip pinhole closest to the front of the instrument.

##### 8 reactions

- Load the (black) BX2300-08 BioXp™ DNA purification strip into position 1.
- Load the (white) BX3300-08 BioXp™ RNA purification strip into position 3.

##### 16 reactions

- Load the (black) BX2300-16 BioXp™ DNA purification strip into position 1.
- Load the (white) BX3300-08 BioXp™ RNA purification strip into position 3 and the (white) BX3300-16 BioXp™ RNA purification strip into position 4.



#### 7. Secure strips with the spring-loaded arms while holding the strips securely in place.

8. Spin the thawed BioXp™ mRNA synthesis plate for one minute at 500 rpm. Visually inspect the wells to ensure they are completely thawed before loading the plate.
  - Load the BioXp™ mRNA synthesis plate onto the reagent chiller, with 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 image showing a loaded deck at the beginning of a run. Confirm that all components are securely seated. Close the door.
10. After the deck inspection, press *Start* to begin the run.

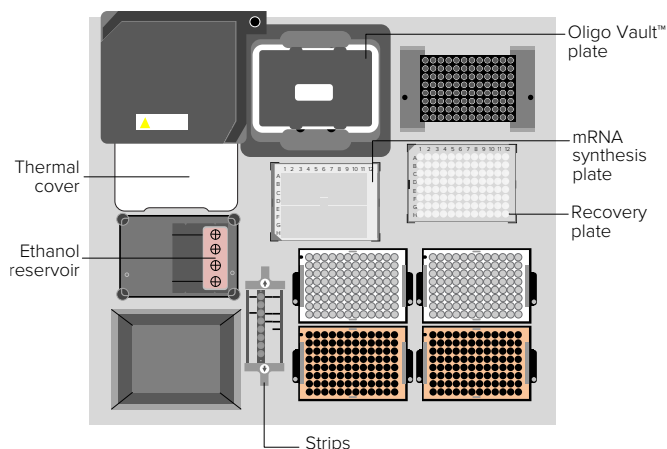
## Final product location

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

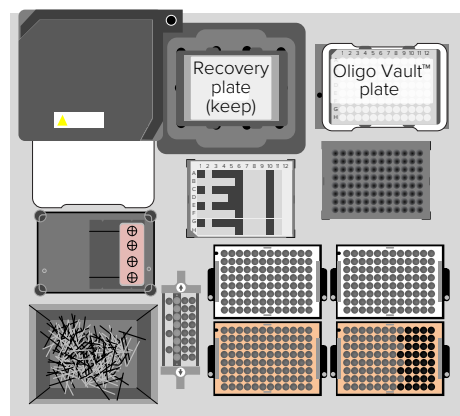
- **Recovery plate** — BioXp™ mRNA (final products) are located in wells A1–H1 (8-reaction kit) or A1–H2 (16-reaction kit) of the recovery plate within the thermocycler.
- Seal and store the **recovery plate** at –80 °C for up to six months.
- See plate map provided with Oligo Vault™ shipment for specific locations of each fragment and final product. General location is shown below.
- **Ethanol reservoir** — Empty and dry for next use.
- **Tip waste bin**

Oligo Vault™ plate can be discarded upon completion of successful run.

Deck at beginning of 16-reaction run

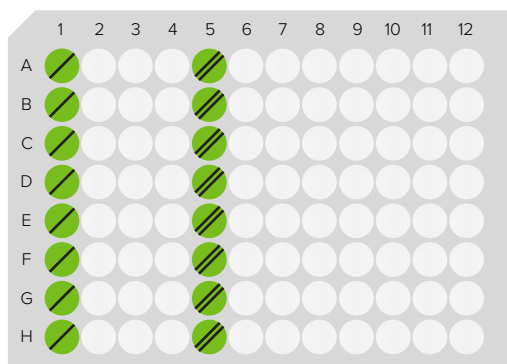


Deck at end of 16-reaction run



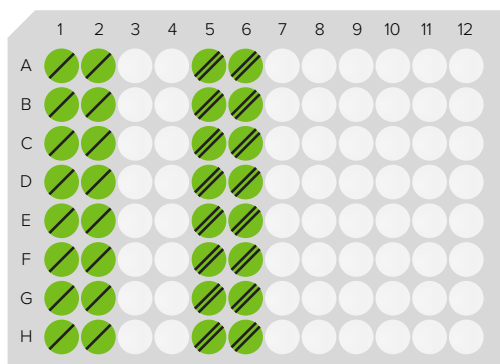
## Recovery plate contents and location

8 reactions



- Final product (mRNA)
- Final product (DNA fragment)

16 reactions



- Final product (mRNA)
- Final product (DNA fragment)

## Trademarks

Gibson Assembly® is a registered trademark of Codex DNA, Inc. Gibson Assembly® US patent nos. 7,776,532 and 8,435,736 and 8,968,999. BioXp™ and Oligo Vault™ are trademarks of Codex DNA, Inc. RNase AWAY™ is a trademark of Thermo Fisher Scientific.

 For technical assistance, contact [help@codexdna.com](mailto:help@codexdna.com).