

COPAS Instrument Control Protocol C-01 Using the Custom 96-well Plates for *Drosophila* Growth & Analysis

Materials

- 40 ml or greater of clean *Drosophila* preparation at a CONCENTRATION of approximately 200 flies/ml in COPAS ESS Sheath (P/N 335-5070-000)
- One (minimum) MULTISCREEN -BV plate with VACU-DRAIN base
- One (minimum) custom mesh membrane for plate sealing
- Prepared FLY FOOD, 10 ml or greater (minimum) (See Sample Preparation Protocol SP-09)
- One MILLIPORE VACUUM MANIFOLD SYSTEM
- Pipette for dispensing 50 to 100uL of FLY FOOD into 96 well plates
- One plate heat sealer

Procedure

Set up the COPAS instrument as directed in the Operator's Manual.

Decant the *Drosophila* sample into the primary sample cup of the instrument.

Verify the sort delay and sort region of choice.

Place one (1) multiscreen-BV plate on the stage of the instrument. Sort 1 to 4 *Drosophila* into each well of the microtiter plate. Take the plate off the stage of the instrument and place it into the MILLIPORE vacuum manifold system.

Drain off all the liquid using the vacuum manifold.

Add 50 µL of prepared FLY FOOD to each well containing 2nd instar and smaller organisms. Add 100 µL of fly food to each well containing 2nd instar or greater organisms.

Place one (1) custom mesh membrane over the top of the plate.

Turn on heat sealer. Push plate into proper position of heat sealer.

Push down the head of the heat sealer over membrane and plate. Compress for 5 seconds. Lift head. Plate is sealed.

Incubate *Drosophila* following standard laboratory procedures.

After incubation, place the sealed plate on the stage of the COPAS instrument for analysis.

Set up instrument GAINS in a similar manner to those chosen when the organisms were dispensed.

Using the COPAS instrument, aspirate the contents of each well. Data from each well will be stored automatically.