



Diagnostics for Life

Avioq HIV-1

Dried Blood Spot (DBS) Technical Tips

1. Store DBS punches frozen (-20°C or colder) in zip-lock bags with desiccant pouch and humidity indicator (< 50% humidity).
2. DBS eluates can be stored frozen (-20°C) in capped microtiter tubes.
3. Dilsim III and eluates **must be** at room temperature (15° - 30°C) before use.
4. If the eluate appears clear after the elution incubation, this may be an indication that the DBS has been improperly collected and/or stored. Deteriorated Dried Blood Spots may retain significant amounts of eluate and could be unreliable for testing.
5. Mix the eluate before use by using a mixer at a speed of 500 rpm +/- 100 rpm, or by using the 12-channel pipet (draw up the eluate and dispense back into the well 7-8 times). Use new tips to mix each sample. Discard the tips used to mix the eluates and use new tips to transfer 25 µl of the eluate into the 125 µl of Dilsim III in the coated microtiter plate. Mix the contents of the well by drawing up and dispensing several times.
6. The DBS will absorb/retain approximately 40 µl of liquid. The remaining 100 µl of eluate can be used for repeats and a possible Western Blot.
7. Incorporate a minimum 30-second soak cycle into the wash procedure for all sample types.
8. High background color may be due to improper or insufficient washing. Refer to "Washer Tips for Dried Blood Spots".
9. Any ¼ inch hole punch of a good quality that is capable of cleanly punching the filter paper without tearing and/or creating loose fibers may be used; some may be acceptable when new, but may wear out quickly. The operator should observe the hole punch action and overall quality of the punches obtained.
10. To minimize carryover with the sample population or punching technique, purge the punch between spots by punching 2-3 clean areas of the filter paper. Remove disks and fibers from the punch by tapping lightly onto an absorbent paper for disposal.
11. **Note:** In low risk populations, purging the punch may only be necessary for repeat testing.
12. Obtain a new ¼ inch hole punch if rust starts to develop on the ¼ inch hole punch. Rust can increase the absorbance of the samples.

Washer Tips for Dried Blood Spots (DBS)

1. For optimal washing of DBS testing, place sufficient wash buffer in appropriate bottle.
2. Waste and trap bottles should be emptied prior to use. Do not let waste bottle get more than three-fourths full.
3. **Do not** add bleach to waste or trap bottle.
4. Check all washer connections for proper fit. Listen for air leaks. If "hissing" is heard when the pump is on, the caps and/or seals are not tight. Ensure the tubing is not twisted or pinched and the wash head is securely in place.
5. Ensure the dispense/aspirate head is properly aligned with the plate carrier, side-to-side and front-to-back. The plate carrier must be secure; an unsteady plate carrier can easily go out of alignment.
6. When turning the pump on, allow sufficient time to pressurize. Check to be sure all settings are correct (see instrument operating manual).
7. Before placing a plate on the plate carrier, make sure all strips are securely in place. When a strip is out of place, the probes will hit the bottom of the plate changing the aspirate height. Consequently, wells will not be emptied fully and wash will be incomplete.
8. When priming, visually inspect dispense probes for proper filling of the wells; inspect aspiration and dispense functions to ensure sufficient washing of all wells.
9. Try a test wash. Look for proper dispense position, proper dispense of wash solution, proper aspirate position and proper aspiration of wash solution in the wells. If you see empty wells or partially-filled wells, clean dispense probes with the wire probe cleaner (see the operating manual for the instrument).
10. Do not over-aspirate the wells. Residual buffer in each well, which forms a ring around the bottom edge of the well, is acceptable. In a properly aligned washer, approximately the same amount should be left in each well.
11. Turn the pump off when not in use. The constant vibrating of some pumps may loosen the screws and seals in the main washer unit.