mycometer
rapid microbiology – on-site technology

QUICK PROTOCOL

For analyzing air samples

Mycometer air FAI

The spreadsheet and video guides can be found on www.mycometer.com under Customer Login.
Calibrate your fluorometer before proceeding. Turn this page for instructions.

Be careful to keep the Fungi and Allergen chemistries (Substrates and Activators) separate!

1. Place the sets of Allergen and Fungi samples in a rack. Be sure to keep track of what pair of samples were collected together. Take the FAI chemistry out of the refrigerator.

2. For each sample filter, place one **Activator** of the matching type in the rack in front of the sample filter. Place one **Developer** in the front of the rack for each sample filter.

3. For each sample, remove the lid from the **Activator**. Use a sterile 1 ml syringe to withdraw 1 ml of the matching **Substrate** from the glass vial and add it to the matching **Activator**. Screw the lid on and shake to mix. The Fungi and Allergen **Substrates** are now activated.

4. Allow all the chemistry to equilibrate to room temperature before proceeding. This typically takes around 20-30 min.

5. Open the FAI spreadsheet. Fill out everything on the “Air FAI analysis” tab.
Set the timer to the calculated reaction time.

6. Remove the lid from each filter. The filters should always be kept in an upright position. Attach a pipette tip on the purple 1 ml pipette and use it to add 1 ml of the activated **Substrate** matching the filter type. Use a new tip for each filter. Continue until this has been done to all the sample filters and then start the timer. The Fungi and Allergen reactions have now started. Make sure that all filters are covered by the **Substrate** solution before gently putting the lids back on the filter.

7. Determine a blank value for each sample. Pour the contents of a **Developer tube** (clear lid) into the remaining Activated **Substrate** left in the **Activator** tube. Pour the combined solution (now 3 ml) into a cuvette and measure the fluorescence in the fluorometer. Note the measured value as the blank value for each sample in the “Air FAI data” tab in the spreadsheet. Repeat for all samples. Discard the cuvettes when all blank values are read. Retrieve a new **Developer**/cuvette for each sample and place it in the front of the rack.

8. As soon as the timer signals, remove the lids from the filters and pour 2 ml **Developer** into each filter. Remove the blue stopper from the lids and put the lids loosely back on the filters.

9. Take the filter out of the rack and press the lid firmly on the filter. Fill a 10 ml syringe* with air. Place the tip of the syringe into the hole of the lid. Remove the red stopper from the bottom of the filter cassette and place the opening into the corresponding cuvette. Slowly press the plunger of the syringe allowing the reaction solution in the filter cassette to be collected in the cuvette. Press and pull the plunger up and down 4-5 times until all the reaction solution has been pushed out of the filter. The liquid should be 4-5 mm (0.157-0.187 inches) above the edge of the rack. Repeat for all samples.

*The 10 ml syringe does not need to be sterile and can be used many times.

10. Read the fluorescence of the cuvette in the fluorometer and note the value as analysis value (AV) in the “Air FAI data” tab. Check that all information has been filled out in the “Air FAI results” tab. The results are then ready to print.

Calibration of the fluorometer
1. For calibration, you need the black cuvette and a fluorescence **Standard** (red cap). Remove the cap and pour the fluorescence **Standard** into the cuvette in which it was inserted.
2. Turn ON the instrument. The display should show UV and 0.
3. Press CAL and then ENTER. Insert the black cuvette and press ENTER again.
4. Insert cuvette with the fluorescence **Standard** and press ENTER. The display will say “Calibration completed push ENTER”. Press ENTER. If done too slow the display will say “Abort calibration?” push the DOWN ARROW for no.
5. Verify the calibration by pushing READ, while the fluorescence **Standard** is still inserted in the fluorometer. The measured value should not deviate from the value and limits that can be read on the backside of the instrument. Note the value in the relevant analysis sheet (Fungi, Allergen or FAI), as the measured standard value.