

Highlights:

- Detects both *Aspergillus sp.* and *Penicillium sp.*
- Capable of detecting as few as 1×10^6 *Aspergillus* spores/mL and 1×10^6 *Penicillium* spores/mL
- Results in 5 minutes or less
- Faster and more cost effective than current methods
- Easy to use - no special equipment, training, or experience required
- Test “on site”

Contents of Kit:

- 20 QuickTox Strips packed in a moisture-resistant canister
- 20 Extraction Tubes
- 20 sample swabs
- 5 sample pestles
- EB12 Extraction Buffer



Add 15 drops of Extraction Buffer

Catalog Number ES 110 PRO 20

Intended Use

The EnviroLogix QuickTox Kit for *Aspergillus* and *Penicillium* is a rapid screening assay capable of identifying *Aspergillus sp.* and *Penicillium sp.* mold spore contamination. It is designed to extract and qualitatively detect the presence of these potentially toxic molds at the levels typically found in contaminated environmental samples such as dry wall, ceiling tiles, carpets, and dust. The QuickTox Strips are capable of detecting as few as 1×10^6 *Aspergillus sp.* or *Penicillium sp.* spores/mL.

This test is designed as a broad-spectrum screen for mold contamination. As such, it is targeted primarily for various species of the genera *Aspergillus* and *Penicillium*. Since there are several hundred thousand mold species and there are some common characteristics between them, this test may react with other molds outside of these two genera. Consult the “Interpreting the Results” section for the most current list of known reactive and non-reactive species.

How the Test Works

Spores from suspect mold samples are collected with a swab and transferred into a vial containing Extraction Buffer. The Extraction Buffer releases the spores from the swab and allows the sample to flow up the QuickTox Strip.

Each QuickTox Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the Extraction Tube.

The sample travels up the membrane strip and is absorbed into the larger pad at the top of the strip. The portion of the strip between the protective tape and the absorbent pad at the top of the strip is used to view the reactions as described under “Interpreting the Results”.

Samples containing *Aspergillus sp.* and/or *Penicillium sp.* are captured and detected on a Test Line. Above the Test Line is a Control Line which indicates the test is functioning properly. If the sample is negative, only a single pink Control Line will be visible. If the sample is positive for either *Aspergillus* or *Penicillium*, two pink lines will be visible: the Test Line and the Control Line. If no lines appear or only the Test Line appears, the test is invalid and must be repeated.

Materials Required but not Provided

- Pipette capable of delivering 500 μ L (optional)
- Marking pen (indelible)
- Timer or watch (5 minutes)
- Micro-tube rack (optional)
- 1:10 dilution of household bleach to decontaminate samples and supplies
- Additional pestles for sample preparation (optional)



Collect sample



Insert the swab and twirl



Insert strip and run for 5 minutes

Preparation of the Sample

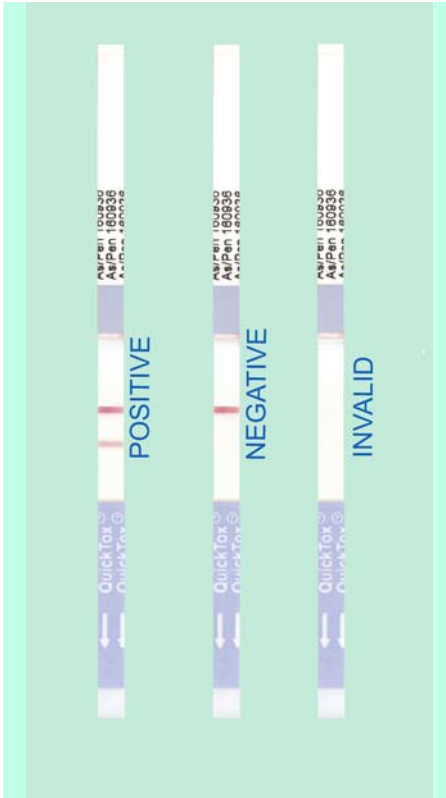
- Carefully add 15 drops (or pipette 500 μ L) of Extraction Buffer into the Extraction Tube. Use a separate Extraction Tube for each sample to be tested. Do not reuse Extraction Tubes, swabs, pestles, or QuickTox Strips.
- Mold colonies.** If the sample is an obvious mold colony, gently swab the suspect mold until mold is visible on the swab head. Insert the swab into the Extraction Tube containing the Extraction Buffer. Twirl the swab and press against the side of the tube to release the material. Cap the tube and shake to mix the sample. The sample should be clear to light gray.
- Dust, particulates, and areas of suspected contamination not readily visible.** Gently swab the area until material is visible on the swab head. Insert the swab into the Extraction Tube containing the Extraction Buffer. Twirl the swab and press against the side of the tube to release the material. Cap the tube and shake to mix the sample.
- Contaminated material.** If the sample is contaminated material such as dry wall or ceiling tile, add a thumbtack-sized amount of material to the Extraction Tube containing the Extraction Buffer. Use a pestle to grind the material to ensure efficient extraction. Cap the tube and shake to mix the sample. Allow any particulates to settle for 1 to 2 minutes before inserting the QuickTox Strip. It may be necessary to add more Extraction Buffer and mix if the material absorbs all the sample liquid.



Add the sample and grind

How to Run the QuickTox Strip Test

- Observe all safety precautions when working with suspect molds. Wear appropriate personal protection equipment including respirator, gloves, and safety glasses.
 - Use a 1:10 dilution of household bleach to decontaminate all equipment, samples, reagents, and disposables.
 - Read all of these instructions before running the kit.
 - Use caution to prevent sample-to-sample cross-contamination.
- Allow refrigerated canisters to come to room temperature before opening. Remove the QuickTox Strips to be used. Avoid bending the strips. Reseal the canister immediately.
 - Place the strip into the Extraction Tube. The sample will travel up the strip. Use a rack to support multiple tubes if needed. *NOTE: Extraction Tubes may be supported in an upright position in a micro-tube rack or by pushing them down into the cutouts of the blue foam from the kit box.*
 - Allow the strip to develop for 5 minutes before making final assay interpretations. Positive sample results may become obvious much more quickly.
 - To retain the strip, cut off the bottom section of the strip covered by the arrow tape. Treat the discarded bottom section with 10% bleach for a minimum of 10 minutes. Seal the retained strips in a resealable plastic bag or other container.
 - Treat discarded samples, Extraction Tubes, swabs, pestles, and any other contaminated material with 10% bleach for a minimum of 10 minutes.



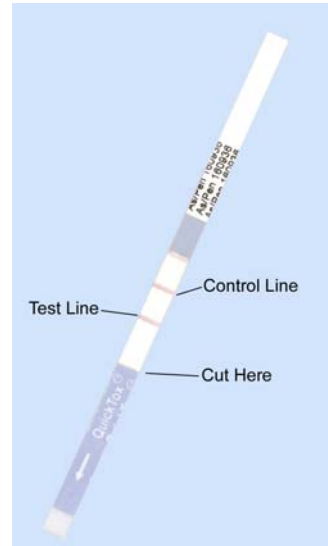
Any pink test line is considered positive

Interpreting the Results

Development of the pink Control Line within 5 minutes indicates that the strip has functioned properly. Any strip that does not develop a pink Control Line should be discarded, and the sample re-tested using another strip.

If the extracted sample contains at least 1×10^6 *Aspergillus* sp. or *Penicillium* sp. spores/mL, a second clearly discernable pink Test Line will develop on the membrane strip between the Control Line and the protective arrow tape. The results should be interpreted as positive for *Aspergillus* sp. or *Penicillium* sp.

If the extract is from a negative sample or is below the detectable limit of the kit, the strip will only show the Control Line. The results should be interpreted as negative for *Aspergillus* sp. or *Penicillium* sp. at 1×10^6 spores/mL.



The test reacts positively with:

Aspergillus versicolor, *candidus*, *penicilloides*, *niger*, *flavus*, *flavipes*, *fumigatus*, *nidulans*, *terreus*, *sydowii*; *Eurotium amstelodami*; *Neosartorya fisheri*; *Penicillium chrysogenum*, *aurantogriseum*, *expansum*, *roqueforti*, *glabrum*, *citrinum*, A, B, C, *brevicompactum*; *Paecilomyces marquandii*, *viridis*, *variotii*; *Wallemia sebi*; *Chaetomium globosum*.

The test does not cross react with:

Cunninghamella elegans; *Absidia*; *Circinella*; *Mucor A*, *plumbeus*; *Rhizopus microsporum*; *Thamnostylum*; *Alternaria alternata*; *Curvularia lunata*; *Acremonium ricifei*, *murorum*; *Scopulariopsis brevicaulis*; *Trichoderma koningii*; *Stachybotrys chartarum*; *Epicoccum nigrum*; *Cladosporium elatum*, *herbarum*, *cladosporioides*, *sphaerospermum*; *Rhodotorula glutinis*; *Esherichia coli*; *Ulocladium chartarum*; *Memnoniella echinata*; *Penicillium variabile* or *Penicillium purporogenum*.

Kit Storage

This QuickTox Kit should be stored refrigerated. Avoid exposing the kit to temperatures greater than 37°C (99°F) or less than 2°C (36°F). Note the shelf life on the kit box for each storage temperature. The kit may be used in field applications; however, prolonged exposure to high temperatures may adversely affect the test results. Do not open the desiccated canister until ready to use the test strips.

Precautions and Limitations

- Allow refrigerated reagents and canisters to reach ambient temperature before use.
- Do not use kit components after the expiration date.



- This kit is designed to screen for presence or absence only and is not meant to be quantitative.
- Do not use reagents or QuickTox Strips from different kits.
- The assay has been optimized using the Extraction Buffer and protocol supplied with the kit. Use of other extraction solutions or protocols may invalidate the results of the test.
- Do not dilute or adulterate test reagents or use samples not called for in the test procedure.
- Wear appropriate protective gear when handling suspected toxic macrocyclic trichothecenes, molds, or contaminated materials.
- As with all tests, it is recommended that results be confirmed by an alternate method when necessary.
- The results generated through the proper use of this kit reflect the condition of the working sample directly tested. Extrapolation as to the condition of the originating material, from which the working sample was derived, should be based on sound sampling procedures and statistical calculations which address random sampling effects, non-random sampling effects and assay system uncertainty. A negative result obtained when properly testing the working sample does not necessarily mean the originating material is entirely negative for the analyte in question.
- While this kit does not cross-react with common materials supporting mold growth (ceiling tile, dry wall, etc.) it is impossible to ensure all such materials will not cause false positive results. If in doubt, test a small amount of the material that is not visibly contaminated with mold as a “negative control”. If the results are negative, it can be assumed the material is not cross-reacting with the assay and causing false positive results.
- A strong positive result may safely be interpreted in as little as 2 minutes after sample addition. It is not safe, however, to conclude that a sample is negative before a full 5 minutes has elapsed. A weakly positive sample may require the full 5 minutes for a distinct Test Line to appear.



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