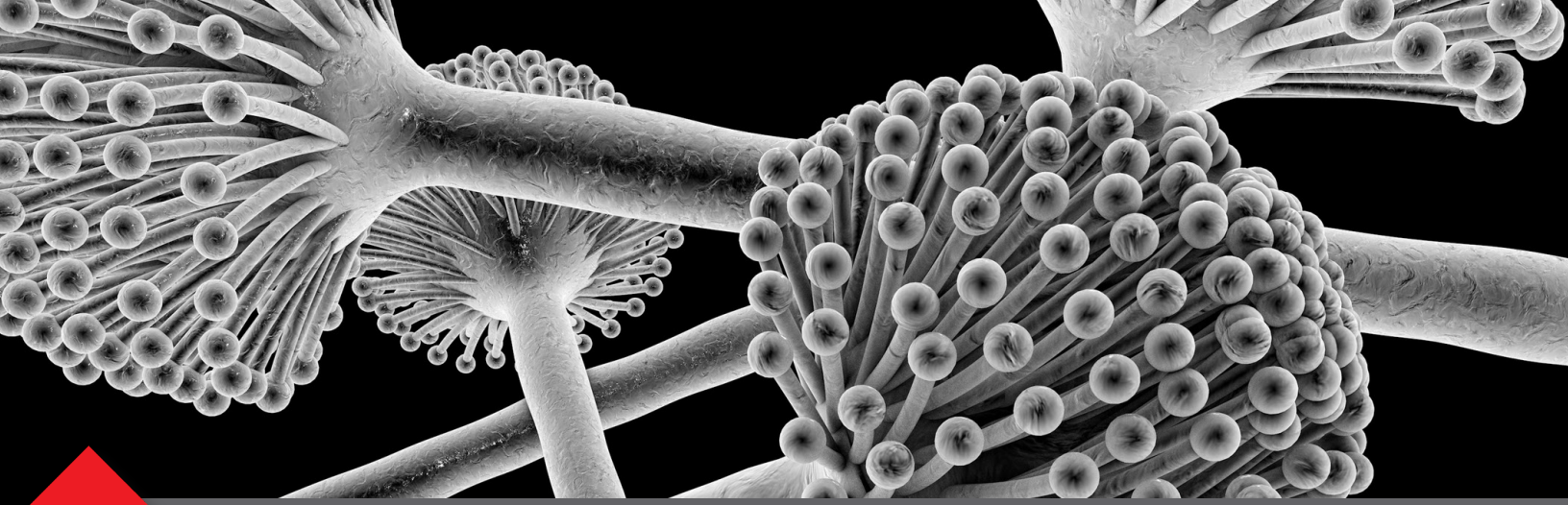

Mycotoxin Testing Options at EMSL

Testing Options in the Microbiology Division

We recommend testing the indoor environment for culturable fungi to determine whether fungal species are present in the environment with the potential to generate mycotoxins. This is a cost-efficient approach rather than unnecessarily testing for a wide range of mycotoxins that are not likely present.

When you select test code M370, EMSL mycologists will perform a comprehensive culture for potential mycotoxin-producing fungi. Acceptable samples are air, dust, bulks, and food. After the completion of testing, our experts will provide personalized consulting on which mycotoxins are potentially present based on the culture results. If further testing is needed to confirm exposure, one of our targeted mycotoxin tests may be recommended.

Test Code:	M370 – Comprehensive Culture for Potential Mycotoxin-producing Fungi
Turnaround Time:	2 weeks
Acceptable Matrices:	Air (Andersen-type samplers, e.g. EMSL's VP-400 – Product ID # 8709001) Dust (cassette sampler, e.g. EMSL Microvac Cassette – Product ID # 8715314) Bulks (sheetrock, insulation, etc.), 1-2 in^2 of the bulk or 1-25g sample Food (contaminated foods, e.g. peanuts and other nut products, corn products, etc.). 1-25g sample
Shipping Considerations:	Ship overnight in a cooler with ice packs

Testing Options in the Industrial Hygiene Division

Mold spores and fragments can be released into the air and dust which may contain mycotoxins. Precautions should be taken when working in dusty areas. The use of HEPA filters and air purifiers can limit the exposure to these airborne spores and dust. EMSL offers mycotoxin analysis of dust wipes. Mycotoxins will be extracted from the wipes via a liquid extraction and analyzed via LC-MS/MS.

Test Code:	IH302 – Aflatoxins IH313 – Ochratoxin A IH316 – Sterigmatocystin IH318 – Zearalenone
Turnaround Times:	2 Week (Standard), 1 Week, 4 day, 3 day, 2 day

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Testing Options in the DNA-PCR Division

EMSL DNA Lab offers a M284 qPCR panel targeting some of the common mycotoxin-producing fungi:

1. *Aspergillus flavus*
2. *Aspergillus fumigatus*
3. *Aspergillus niger*
4. *Aspergillus ochraceus*
5. *Aspergillus penicilliodes*
6. *Aspergillus versicolor* group
7. *Chaetomium globosum*
8. *Penicillium brevicompactum*
9. *Stachybotrys chartarum*
10. *Wallemia sebi*

Another qPCR test, M190, focuses on some of the common *Penicillium* and *Talaromyces* species capable of producing mycotoxins:

1. *Penicillium aurantiogriseum*
2. *Penicillium brevicompactum*
3. *Penicillium chrysogenum*
4. *Penicillium citrinum*
5. *Penicillium crustosum*
6. *Penicillium expansum*
7. *Penicillium roquefortii*
8. *Penicillium simplicissimum*
9. *Talaromyces variabilis (syn. P. variabile)*

Even though numbers of species covered by these qPCR tests are relatively small, customers might consider these molecular options when time is limited. Less comprehensive than conventional culture, qPCR targeted testing, however, can be completed in as little as 6 hours to inform our clients on the presence of dangerous molds. Acceptable matrices include air, dust, and swab. Similarly to a conventional testing, an extensive explanation and interpretation of molecular test results by our expert team is available to EMSL customers.

Test Codes:	M284 – qPCR Panel of 10 Common Mycotoxin-producing Fungi M190 – qPCR Panel of 9 Mycotoxin-producing *Penicillium* species
Turnaround Times:	6 hours, 1 day, 2 days, 3 days
Acceptable Matrices:	Air (EMSL PCR Cassette – Product ID # 8715309) Dust (EMSL Dust and Allergen Sampler – Product ID # 8715600) Swab (1mL Butterfield Buffer Swab – Product ID # 8708935)
Shipping Considerations:	Ship overnight in a regular envelope or cardboard box

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Testing Options in the Food Chemistry Division

Foods such as grains, coffee, nuts, and dried fruits are susceptible to fungus which may produce mycotoxins. EMSL offers a variety of mycotoxin analyses via LC-MS/MS. Samples will be extracted using the QuEChERs method and injected.

Test Code:	F647 – Aflatoxins Ochratoxin A F648 – Zearalenone Deoxynivalenol (DON) Sterigmatocystin
Turnaround Times:	2 Week (Standard), 1 Week, 4 day, 3 day, 2 day
Matrices:	All food and beverage matrices
Sample Amount:	50 grams
Analytes Offered:	Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2 Ochratoxin A Deoxynivalenol Zearalenone Sterigmatocystin

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