EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

DNA LABORATORY SERVICES GUIDE

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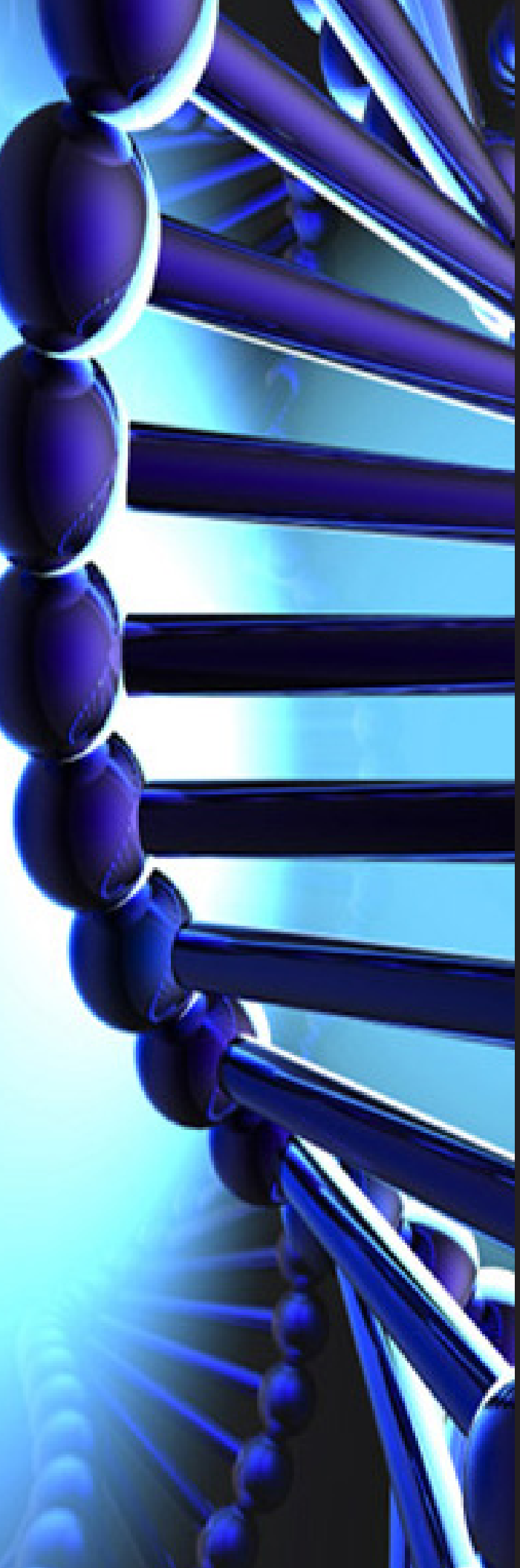

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Introduction

DNA Laboratory

DNA, or deoxyribonucleic acid, is the most common and essential component of all living organisms. It contains the genetic information an organism needs to develop, live, and reproduce. DNA signatures, unique for each species, can be used to distinguish it from all the others and detect the presence of an organism, whether it is alive, dead, or cannot be cultured.

EMSL Analytical, Inc. has been performing molecular testing for over 20 years. With state-of-the-art-equipment and highly trained personnel the EMSL DNA Laboratory offers high quality molecular services in areas of environmental monitoring and food testing.

EMSL Analytical, Inc.

As the nation's leading environmental testing firm, EMSL's network of nationwide laboratories has been providing quality analytical services since 1981. We offer a wide array of analytical testing services to support environmental investigations focused on asbestos, microbiology, lead paint, environmental chemistry, indoor air quality, industrial hygiene, food testing, and molecular analysis. Additionally, we also provide materials testing, characterization, and forensic laboratory services for a wide range of commercial, industrial, regulatory, and law enforcement clients.

PCR Test Offerings

Mold qPCR panels

- M180 Environmental Relative Moldiness Index (ERMI) 36 qPCR Panel
- M233 Environmental Relative Moldiness Index (EPA) 36 qPCR Panel
- M181 Water Damage 20 qPCR Panel
- M182 Water Damage 15 qPCR Panel
- M184 Water Damage 10 qPCR Panel
- M186 *Aspergillus* Comprehensive 15 qPCR Panel
- M187 *Aspergillus* Common 10 qPCR Panel
- M188 *Aspergillus* Nosocomial 6 qPCR Panel
- M189 *Penicillium* Comprehensive 13 qPCR Panel
- M190 *Penicillium* Comprehensive Mycotoxin 9 qPCR Panel
- M284 Mycotoxin Producing Fungi 10 qPCR Panel
- M100 Custom Mold qPCR Panel

Legionella qPCR Testing

- M164 *Legionella* spp. qPCR
- M164 M103 *Legionella pneumophila* qPCR
- M164 *Legionella pneumophila* Serogroup 1 qPCR
- M101 *Legionella maceachernii* qPCR
- M102 *Legionella micdadei* qPCR
- M104 *Legionella sainthelensi/cincinnatiensis* qPCR

Fecal and Urine Contamination Indicators

- M095 Total Bacteroides qPCR
- M199 Human Bacteroides qPCR
- M333 Human polyomavirus qPCR

Rapid Pathogen Detection: Viruses

- M330 SARS-CoV-2 coronavirus RT-qPCR
- M332 Human norovirus RT-qPCR
- M334 Human rotavirus RT-qPCR
- M331 Human adenovirus qPCR
- M336 Human astrovirus RT-qPCR
- M335 Human enterovirus RT-qPCR

Rapid Pathogen Detection: Bacteria

- M141 *Salmonella* spp. qPCR
- M287 *Shigella* spp. qPCR
- M096 *Enterococcus* spp. qPCR
- M140 *E. coli* O157:H7 qPCR
- M207 *Helicobacter pylori* qPCR
- M144 *Mycobacterium avium* complex qPCR
- M159 *Mycobacterium tuberculosis* qPCR
- M206 *Clostridium botulinum* qPCR
- M279 *Clostridium difficile* qPCR
- M261 *Anaplasma phagocytophilum* qPCR
- M196 *Borrelia burgdorferi* qPCR
- M262 *Leptospira* spp. qPCR
- M234 *Chlamydophila psittaci* qPCR

Rapid Pathogen Detection: Fungi

- M286 *Candida auris* qPCR
- M208 *Histoplasma capsulatum* qPCR
- M143 *Cryptococcus neoformans* qPCR

Rapid Pathogen Detection: Protozoan and Parasites

- M147 *Acanthamoeba* spp. qPCR
- M260 *Babesia microti* qPCR
- M236 *Baylisascaris procyonis* (raccoon roundworm) PCR
- M149 *Giardia* spp. qPCR
- M197 *Naegleria fowleri* qPCR

Rapid Pathogen Detection: Insects

- M146 *Cimex lectularius* (bed bug) qPCR

Aromatic Hydrocarbons Biodegradation Markers

- M264 Aromatic ring hydroxylating monooxygenase RMO qPCR
- M268 Naphthalene dioxygenase NAH qPCR
- M266 Phenol monooxygenase PHE qPCR
- M263 Toluene dioxygenase TOD qPCR
- M265 Toluene monooxygenase TOMO qPCR

Chlorinated Hydrocarbons Biodegradation Markers

- M273 *Dehalococcoides* 16S rRNA qPCR
- M274 Reductive dehalogenase *bvcA* qPCR
- M276 Reductive dehalogenase *tceA* qPCR
- M275 Reductive dehalogenase *vcrA* qPCR

Food Adulteration

- F132 Meat Speciation qPCR

Rodents and Rodent Droppings

- M271 Mouse and Rat Droppings PCR

Taxonomic Identification of Bacteria and Fungi

- M192 Bacterial ID by dideoxy sequencing of 16S rRNA
- M192 Fungal ID by dideoxy sequencing of ITS

Whole Genome Sequencing

- M285 Whole Genome Sequencing of bacterial species

Sampling Media

A variety of environmental and food matrices can be tested with molecular methods offered by EMSL DNA Lab. Sampling instructions can be found at the end of this Guide. Depending on the matrix nature the following products can be used for sample collection:

Air Air Cassettes, Product IDs 8715309 and 8715251

Swab 1 ML Butterfields Swab, Product ID 8708935

Bulk 2 oz and 4 oz Glass Jars, Product IDs 8714223 and 8714232

Dust Dust and Allergen Sampler, Product ID 8715600

Water 120 ml, 250 ml, and 1000 mL Sterile Plastic Bottles with Preservative, Product IDs 87M007, 87M005, and 87M001

Culture Bacterial and fungal axenic cultures on agar plates

Mold/Fungal Testing Panels qPCR

EMSL's DNA Laboratory offers a wide variety of qPCR mold/fungal panel tests. All mold/fungal qPCR tests are accredited by the American Industrial Hygiene Association (AIHA).

M180 Environmental Relative Moldiness Index (ERMI) 36 Panel/M233 EPA-36 qPCR Panel

ERMI qPCR analysis is performed under a Patent License Agreement with the US Environmental Protection Agency (EPA) National Exposure and Research Laboratory.

Group I (Water Damage Indicators): *Aspergillus flavus*, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus ochraceus*, *Aspergillus penicillioides*, *Aspergillus restrictus*, *Aspergillus sclerotiorum*, *Aspergillus sydowii*, *Aspergillus unguis*, *Aspergillus versicolor*, *Aureobasidium pullulans*, *Chaetomium globosum*, *Cladosporium sphaerospermum*, *Eurotium (A) amstelodami*, *Paecilomyces variotii*, *Penicillium brevicompactum*, *Penicillium corylophilum*, *Penicillium crustosum*, *Penicillium purpurogenum*, *Penicillium spinulosum*, *Penicillium variabile*, *Scopulariopsis brevicaulis*, *Scopulariopsis chartarum*, *Stachybotrys chartarum*, *Trichoderma viride*, *Wallemia sebi*.

Group II (Ubiquitous Fungi): *Acremonium strictum*, *Alternaria alternata*, *Aspergillus ustus*, *Cladosporium cladosporioides* v1, *Cladosporium cladosporioides* v2, *Cladosporium herbarum*, *Epicoccum nigrum*, *Mucor* & *Rhizopus* group, *Penicillium chrysogenum*, *Rhizopus stolonifer*

M181 Water Damage 20 qPCR Panel

Aspergillus flavus, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus ochraceus*, *Aspergillus penicillioides*, *Aspergillus sclerotiorum*, *Aspergillus sydowii*, *Aspergillus unguis*, *Aspergillus versicolor*, *Aureobasidium pullulans*, *Chaetomiumglobosum*, *Cladosporium sphaerosperum*, *Eurotium (A) amstelodami*, *Paecilomyces variotii*, *Pencillium brevicompactum*, *Penicilliumcorylophilum*, *Penicillium crustosum*, *Penicillium spinulosum*, *Penicillium variabile*, *Stachybotrys chartarum*

M182 Water Damage 15 qPCR Panel

Aspergillus flavus, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus sydowii*, *Aspergillus versicolor*, *Aureobasidium pullulans*, *Aureobasidium pullulans*, *Chaetomium globosum*, *Cladosporium sphaerospermum*, *Eurotium (A) amstelodami*, *Paecilomyces variotii*, *Penicillium brevicompactum*, *Penicillium corylophilum*, *Penicillium spinulosum*, *Penicillium variabile*, *Stachybotrys chartarum*

M184 Water Damage 10 qPCR Panel

Aspergillus/Penicillium Group, *Aspergillus fumigatus*, *Aspergillus versicolor*, *Aureobasidium pullulans*, *Chaetomium globosum*, *Cladosporium sphaerospermum*, *Paecilomyces variotii*, *Stachybotrys chartarum*, *Scopulariopsis brevicaulis*, *Trichoderma viride*

M186 *Aspergillus* Comprehensive 15 qPCR Panel

Eurotium (A.) amstelodami, *Aspergillus flavus*, *Aspergillus fumigatus*, *Emericella (A.) nidulans*, *Aspergillus niger*, *Aspergillus ochraceus*, *Aspergillus parasiticus*, *Aspergillus penicillioides*, *Aspergillus restrictus*, *Aspergillus sclerotiorum*, *Aspergillus sydowii*, *Aspergillus terreus*, *Aspergillus unguis*, *Aspergillus ustus*, *Aspergillus versicolor*

M187 *Aspergillus* Common 10 qPCR Panel

Eurotium (A.) amstelodami, Aspergillus flavus, Aspergillus fumigatus, Emericella (A.) nidulans, Aspergillus niger, Aspergillus ochraceus, Aspergillus parasiticus, Aspergillus sydowii, Aspergillus ustus, Aspergillus versicolor

M188 *Aspergillus* Nosocomial 6 qPCR Panel

Aspergillus flavus, Aspergillus fumigatus, Emericella (A.) nidulans, Aspergillus niger, Aspergillus terreus, Aspergillus versicolor

M189 *Penicillium* Comprehensive 13 qPCR Panel

Penicillium aurantiogriseum, Penicillium brevicompactum, Penicillium chrysogenum, Penicillium citrinum, Penicillium corylophilum, Penicillium crustosum, Penicillium expansum, Penicillium fellutanum, Penicillium purpurogenum, Penicillium roquefortii, Penicillium simplicissimum, Penicillium spinulosum, Penicillium variabile

M190 *Penicillium* Comprehensive Mycotoxin 9 Panel

Penicillium aurantiogriseum, Penicillium brevicompactum, Penicillium chrysogenum, Penicillium citrinum, Penicillium crustosum, Penicillium expansum, Penicillium roquefortii, Penicillium simplicissimum, Penicillium variabile

M284 Common Mycotoxin-Producing Fungi qPCR Panel

Aspergillus flavus, Aspergillus fumigatus, Aspergillus niger, Aspergillus ochraceus, Aspergillus penicilliodes, Aspergillus versicolor, Chaetomium globosum, Penicillium brevicompactum, Stachybotrys chartarum, Wallemia sebi

M100 Custom qPCR Fungal qPCR Panel

Combination of fungal species from other qPCR panels in any number.

Rare Fungal Species (can be added to any qPCR panel)

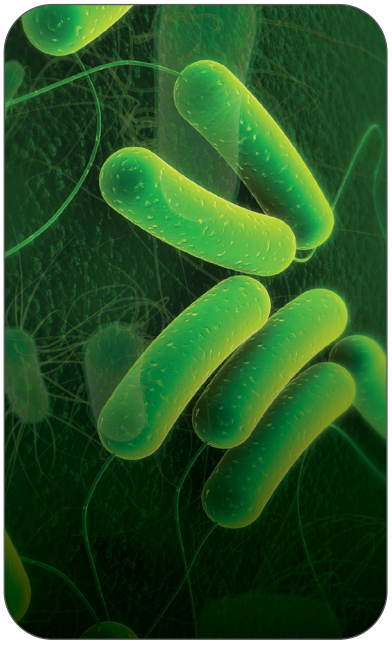
Aspergillus parasiticus, Aspergillus terreus, Emericella (Aspergillus) nidulans, Penicillium aurantiogriseum, Penicillium citrinum, Penicillium expansum, Penicillium fellutanum, Penicillium roquefortii, Penicillium simplicissimum

Legionella qPCR Testing

Legionella pneumophila is an environmental bacterium and a causative agent of Legionnaires' disease, a form of severe pneumonia. *Legionella* is commonly found in aquatic environments such as cooling towers, potable water distribution systems, fountains, and whirlpool spas. qPCR testing for *Legionella* has certain advantages compared with conventional culture techniques. It's faster, more sensitive and allows detection of un-culturable and nonviable *Legionella*. EMSL DNA Lab participates in the CDC Environmental *Legionella* Isolation Techniques Evaluation (ELITE) Program. qPCR panel for *Legionella* spp., *L. pneumophila*, and *L. pneumophila* Sg 1 is accredited by the American Industrial Hygiene Association (AIHA).

M162 *Legionella pneumophila*, *Legionella maceachernii*, *Legionella micdadei*, *Legionella sainthelensi/cincinnatiensis*, qPCR Panel

Legionella pneumophila, *Legionella micdadei*, *Legionella sainthelensi/cincinnatiensis*, *Legionella maceachernii* qualitative testing by qPCR



M164 *Legionella* spp., *Legionella pneumophila*, and *Legionella pneumophila* Serogroup 1 qPCR Panel

Legionella spp., *Legionella pneumophila*, and *Legionella pneumophila* Serogroup 1 quantitative testing by qPCR

M101 *Legionella maceachernii* qPCR

Legionella maceachernii qualitative testing by qPCR

M102 *Legionella micdadeiq* PCR

Legionella micdadei qualitative testing by qPCR

M103 *Legionella pneumophila* qPCR

Legionella pneumophila qualitative testing by qPCR

M104 *Legionella sainthelensi/cincinnatiensis* qPCR

Legionella sainthelensi/cincinnatiensis qualitative testing by qPCR

Fecal and Urine Contamination Testing by qPCR

Traditional water quality assessment based on culture of fecal indicator bacteria, such as *Escherichia coli* and *Enterococcus* spp., lacks both sensitivity and specificity. Molecular testing for *Bacteroides* spp. is not only more sensitive than culture, but also capable of identifying sources of fecal pollution, which is important for assessing the public health risk and devising management strategies. Plus to sewer contamination detection by *Bacteroides* spp., human polyomavirus biomarker testing offers an additional option for tracing a presence of human urine in the environment. qPCR tests for Total *Bacteroides* and Human *Bacteroides* are accredited by the American Industrial Hygiene Association (AIHA).

M095 Total *Bacteroides* qPCR
Total *Bacteroides* spp. quantitative testing by qPCR

M199 Human *Bacteroides* qPCR
Human *Bacteroides* spp. quantitative testing by qPCR

M333 Human polyomavirus qPCR
Human polyomavirus quantitative testing by qPCR

Pathogen Detection by qPCR

DNA Lab offers a wide range of molecular tests targeting a variety of viral, bacterial, fungal, and protozoan pathogens in the environmental samples. Many of these species are associated with food spoilage, hospital-acquired infections, tick-borne diseases, and zoonotic infections. The list of tests and corresponding test codes can be found at the beginning of the Guide.

Biodegrading Bacteria Testing by qPCR

Certain groups of microorganisms possess catabolic activities against polycyclic aromatic hydrocarbons and chlorinated hydrocarbons polluting environment. Testing for corresponding biomarkers of those activities is important for evaluation of the biodegradation potential of environmental microflora. The list of tests targeting bacteria and genes involved into biodegradation of aromatic hydrocarbons and chlorinated hydrocarbons and corresponding test codes can be found at the beginning of the Guide.

Sanger Sequencing and Whole Genome Sequencing

Plus to PCR, qPCR, and RT-qPCR tests DNA Lab possesses dideoxy sequencing and whole genome sequencing (WGS) capabilities. These methods can be used for high resolution analysis of the genetic code which makes possible identification of bacterial and fungal species. Greater WGS power allows subtyping and bacterial strain identification for microbial source tracking purposes and outbreak investigations.

Taxonomic Identification of Bacteria and Fungi

M192 Bacterial ID by dideoxy sequencing of 16S rRNA
M192 Fungal ID by dideoxy sequencing of ITS

Whole Genome Sequencing

M285 Whole Genome Sequencing of bacterial species

Special Projects

As a contract laboratory DNA Lab performs a variety of special projects involving different molecular biology approaches and techniques.

- Custom PCR, qPCR, and RT-qPCR test development
- Custom Sanger DNA sequencing

We can do much more,
Please contact us and let us help you.
dnalab2@emsl.com
800-220-3765

DNA Laboratory Pricing Guide

Test	Code	3 Hr	6 Hr	1 Day	2 Day	3 Day	1 Wk	
PCR- Environmental Relative Moldiness Index (ERMI) 36 Panel	M180	$1,278	$957	$603	$403	$316	$242	
PCR- Environmental Relative Moldiness Index (EPA) 36 Panel	M233	$1,278	$957	$603	$403	$316	$242	
PCR- Water Damage 20 Panel	M181	$1,051	$791	$498	$322	$242		
PCR- Water Damage 15 Panel	M182	$888	$666	$425	$291	$202		
PCR- Water Damage 10 Panel	M184	$623	$535	$262	$202	$161		
Create Your Own Fungal Panel (Price per species)	M100			Call	Call	Call		
PCR- *Aspergillus* Comprehensive 15 Panel	M186	$888	$666	$425	$291	$202		
PCR- *Aspergillus* Common 10 Panel	M187	$711	$535	$262	$202	$161		
PCR- *Aspergillus* Nosocomial 6 Panel	M188	$498	$375	$237	$187	$145		
PCR- *Penicillium* Comprehensive 13 Panel	M189	$711	$535	$338	$252	$171		
PCR- *Penicillium* Comprehensive Mycotoxin 9 Panel	M190	$623	$498	$254	$195	$153		
PCR- Mycotoxin 10 Panel	M284	$711	$380	$295	$250	$161		
PCR/DNA - Rapid Pathogen Detection - Bacteria								
Borrelia burgdorferi lyme disease by qPCR	M196	Call	Call	$254	$161	$136	$102	
Clostridium botulinum PCR	M206	$888	$711	$425	$291	$242	212	
E. coli 0157:H7 qPCR	M140	$888	$711	$425	$291	$242	195	
Helicobacter pylori qPCR	M207	$888	$711	$425	$291	$242	212	
Mycobacterium avium complex (MAC) qPCR; includes *M. avium* and *M. intracellulare*	M144	$936	$754	$449	$304	$257	$223	
Mycobacterium tuberculosis by real-time PCR	M159	$888	$711	$425	$291	$242	$212	
Salmonella spp., qPCR	M141	$888	$711	$425	$291	$242	$223	
Shigella spp., qPCR	M287	$888	$711	$425	$291	$242	$223	
Anaplasma phagocytophilum qPCR	M261	Call	Call	$254	$161	$136	$102	
Leptospira qPCR	M262	$765	$595	$205	$163	$131	$117	
Chlamydophila psittaci qPCR	M234	$888	$711	$425	$291	$242	$212	
Clostridium difficile plus Toxin A & Toxin B qPCR	M279	$888	$711	$425	$291	$242	$223	
PCR/DNA - Rapid Pathogen Detection - Fungi								
Candida auris qPCR	M286		$711	$425	$291	$242		
Histoplasma capsulatum NIOSH Nested PCR	M208	$888	$711	$425	$291	$242		
Cryptococcus neoformans qPCR	M143	$888	$711	$425	$291	$242		

Test	Code	Same Day	1 Day	2 Day	3 Day	4 Day	1 Wk	2 Wk
PCR/DNA - Rapid Pathogen Detection - Viruses								
COVID-19 (SARS-CoV-2) by qPCR (Swab/Air)	M330	$845	$397	$343	$276	$236	$222	
COVID-19 (SARS-CoV-2) by qPCR (Waste Water)	M330				$873		$603	$403

Test	Code	3 Hr	6 Hr	1 Day	2 Day	3 Day	1 Wk
PCR/DNA - Rapid Pathogen Detection - Protozoan and Parasites							
Acanthamoeba spp., qPCR	M147	$888	$711	$425	$291	$242	
Baylisascaris procyonis, raccoon roundworms	M236	$888	$711	$425	$291	$242	
Giardia spp., qPCR	M149	$888	$711	$425	$291	$242	
Babesia microti qPCR	M260	Call	Call	$254	$161	$136	$102
Naegleria fowleri by nested PCR	M197	$888	$711	$425	$291	$242	
PCR/DNA Rapid Pathogen Detection - Insect							
Bed Bug (*Cimex lectularius*) qPCR	M146	Call	$354	$254	$161	$136	$106
PCR/DNA - Rapid Pathogen Detection - PCR - DNA Sequencing (Price is per isolate)	M192						$299
PCR - *Legionella*							
Legionella pneumophila, *Legionella micdadei*, *Legionella sainthelensi/cincinnatiensis*, *Legionella maceachernii*	M162	$799	$623	$313	$252	$202	
Legionella pneumophila	M103	$799	$623	$213	$171	$136	
L. micdadei	M102	$799	$623	$213	$171	$136	
L. sainthelensi/cincinnatiensis	M104	$799	$623	$213	$171	$136	
L. maceachernii	M101	$799	$623	$213	$171	$136	
Legionella spp. and *L. pneumophila* sero 1 qPCR	M164	$799	$623	$313	$252	$202	
PCR - Fecal Contamination Indicators							
Bacteroides sp. (100 mL sample required)	M095	$535	$446	$196	$136	$106	
Human *Bacteroides* spp., qPCR (100 mL sample required)	M199	$535	$446	$196	$136	$106	
Rodent Dropping by PCR	M271		$711	$425	$291	$242	

Test	Code	6 Hr	1 Day	2 Day	3 Day	4 Day	1 Wk
PCR/DNA - Aromatic Hydrocarbon Biodegradation Markers							
Ring Hydroxylating Monooxygenase qPCR	M264	$647	$385	$263	$221	$184	$147
Toluene Monooxygenase qPCR	M265	$647	$385	$263	$221	$184	$147
Phenol Monooxygenase qPCR	M266	$647	$385	$263	$221	$184	$147
Naphthalene Dioxygenase qPCR	M268	$647	$385	$263	$221	$184	$147
PCR/DNA - Chlorinated Hydrocarbon Biodegradation Marers in Dehalococcoides							
Dehalococcoides bvcA gene qPCR	M273	$647	$385	$263	$221	$184	$147
Dehalococcoides bvcA gene qPCR	M274	$647	$385	$263	$221	$184	$147
Dehalococcoides vcr gene qPCR	M275	$647	$385	$263	$221	$184	$147
Dehalococcoides tce gene qPCR	M276	$647	$385	$263	$221	$184	$147

DNA Laboratory Sampling Guide

Air Sampling

(Air Cassettes are available from EMSL, Product IDs 8715309 and 8715251)

1. Obtain PCR air sampling cassette from EMSL.
2. Remove the upper (blue) and lower (red) plugs of the cassette.
3. Attach a vacuum pump to the cassette through the lower opening.
4. Set pump flow rate for 10 liters per minute – 13 liters per minute.
5. Sample as much air as desired through the upper opening. There is no upper limit to sampling time, however collecting 1000 liters of air is adequate for most of PCR tests.
6. Place each air cassette into the individual air-tight container such as a ziploc plastic bag.
7. Clearly label the plastic bag with sample identification.
8. Fill the EMSL Chain of Custody specifying sample number, collected air volume, collection location, time and date.
9. Ship cassette to EMSL.

Mold / PCR Analysis Cassette
Product ID: 8715309

Vira-Pore Cassette
Product ID: 8715251

Bulk Sampling

(2 oz and 4 oz Glass Jars are available from EMSL, Product IDs 8714223 and 8714232)

1. Obtain plastic bags or glass jars from EMSL.
2. Locate the representative portion of bulk material.
3. Collect small amount of material with spoon, spatula, or any other tool.
4. Place the sample in a clean, air-tight container such as ziploc plastic bag or small glass jar. Seal tightly.
5. Clean up any residual material on the outside of the container. If necessary disinfect with alcohol wipes.
6. Clearly label the container with sample identification.
7. Fill the EMSL Chain of Custody specifying sample number, collection location, time and date.
8. Ship bulk sample to EMSL.

2 oz Glass Jar- Non Sterile
Product ID: 8714223
4 oz glass jar-non sterile
Product ID: 8714232

Swab Sampling

(1 ML Butterfields Swab is available from EMSL, Product ID 8708935)

1. Obtain a swab from EMSL to collect specimen.
2. Wearing gloves, remove the swab from transport tube.
3. Swab the desired area thoroughly, rolling the swab lightly back and forth over sampling area. Sampling area of 4” x 4” is adequate for most of PCR tests.
4. Insert swab into the tube with transport medium and firmly close the cap.
5. Clearly label the transport tube with sample identification.
6. Fill the EMSL Chain of Custody specifying sample number, sampling area, collection location, time, and date.
7. Ship swab to EMSL.

1 ML Butterfields Swab
Product ID: 8708935

Dust Sampling

(Dust and Allergen Sampler is available from EMSL, Product ID 8715600)

1. Obtain Dust and Allergen Sampler from EMSL.
2. Remove white plastic caps from both ends of the Dust and Allergen Sampler.
3. Attach Dust and Allergen Sampler to the vacuum cleaner hose or tube.
4. Turn on the vacuum cleaner and vacuum area necessary to obtain enough material for PCR testing. There is no upper limit to sampling time, however collecting at least 5 mg of dust is required for most of PCR tests.
5. Disconnect Dust and Allergen Sampler from the vacuum cleaner hose or tube.
6. Attach white plastic caps to both ends of the Dust and Allergen Sampler to secure dust sample inside the inner mesh plastic tube.
7. Insert each Dust and Allergen Sampler into the individual air-tight container such as a ziploc plastic bag.
8. Clearly label the plastic bag with sample identification.
9. Fill the EMSL Chain of Custody specifying sample number, collection location, time and date.
10. Ship Dust and Allergen Sampler to EMSL.

Allergen Sampler
Product ID: 8715600

Water Sampling

(120 mL, 250 mL, and 1000 mL Sterile Plastic Bottles with Preservative are available from EMSL, Product IDs 87M007, 87M005, and 87M001)

1. Obtain Sterile Plastic Bottles with Preservative from EMSL.
2. Fill container with specified volume of water and seal securely to prevent leakage during transport. Collecting between 100 milliliters and 1 liter of water is adequate for most of PCR tests.
3. Clean up any residual liquid on the outside of the container. Disinfect with alcohol wipes if necessary.
4. Clearly label Plastic Bottle with sample identification.
5. Fill the EMSL Chain of Custody specifying sample number, water volume, collection location, time and date.
6. Pack Bottles to the insulated container with ice packs to avoid sample overheating during shipping.
7. Ship water samples to EMSL with overnight delivery.

120 ML Ster Bottle w /preserve for Microbiology
Product ID: 87M007
250 mL Ster Bottle w/ Preserv for Non Potbl Water/*Legionella*
Product ID: 87M005
1000 mL Ster Bottle w/ Preserv for Potable Water / *Legionella*
Product ID: 87M001

Bacterial and Fungal Culture Sampling

1. Bacterial and fungal strains can be submitted for identification as axenic cultures on agar plates.
2. Isolated colonies must be visible on a plate to ensure culture purity and accuracy of the identification.
3. Clearly label agar plate with sample identification.
4. Fill the EMSL Chain of Custody specifying sample number.
5. Pack agar plate to the insulated container ensuring sample integrity during shipping.
6. Ship agar plate to EMSL.