APERIOMICS™

Xplore-PATHO℠

Aperiomics identifies every known pathogen in one test, giving healthcare providers the most powerful tool in identifying the causes of infection.

The Aperiomics Difference

We use a technology called **deep shotgun metagenomic sequencing**, which creates a genetic fingerprint of every known microorganism in clinical samples. Once a sample is sequenced, we remove the human DNA data from the millions of sequencing fragments to focus on non-human DNA. We then run the remaining sequence data through Xplore-ID℠, our industry-leading metagenomic algorithm, and against Xplore-DB℠, one of the largest, most complete microbial databases.

Other testing companies identify just a few pathogens at a time. But at Aperiomics we can test for more than 37,000 microorganisms at once, far more than even our closest competitors.

About Next-Generation Sequencing

Although the technology Aperiomics uses falls under the umbrella of "next-generation sequencing" (NGS), it's very different from other NGS technologies.

The most common NGS technology used by clinical labs is called 16s sequencing. 16s sequencing, like the older Polymerase Chain Reaction (PCR) testing, creates many copies of small DNA fragments and compares them to a limited database. Labs that use 16s examine ~0.001% of the DNA in a sample. But our deep shotgun metagenomic sequencing can examine 100,000 times more information than 16s with far more robust results.

APERIOMICS
~100%
of the DNA
in a sample

>

16s TESTING
~0.001%
of the DNA
in a sample

97%
sensitivity

99.99%
specificity

High Standards

Our standards have been benchmarked by unbiased, external validation platforms such as the Zymobiomics Microbial Standard and the CAMI Mosaic Microbial Community Challenge supported by the National Institute of Standards and Technology (NIST).

Using our Xplore-ID℠ algorithm we achieve a 97% sensitivity and a 99.99% specificity. Our testing has been adopted by providers across the United States and in 17 other countries around the world.

11 standard kits
that we can customize for almost every testing need:

- Blood Plasma
- Fecal
- Urine
- Tissue
- Deep Nasal Swab
- Vaginal Swab
- Wound Swab
- Sputum
- Cerebrospinal Fluid
- Prostate Secretion
- Breast milk

Once the sample is analyzed, the clinician receives a robust report and the opportunity for a phone call to discuss the results with one of our experts.
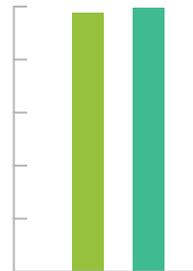
A New Paradigm

Traditional testing is infection-specific: a provider has a hypothesis, which may or may not identify the right pathogen. In fact, studies have shown that 75% of older testing fails to identify the causes of infection.

Aperiomics' testing is infection-agnostic and thus far more efficient, examining all known causes of infection at once.

75%
of older testing fails to identify the causes of infection.

Testing for Everything

Standard cultures identify only 10% of microbes, leaving 90% unidentified. Aperiomics testing can identify 100% of known microbes.

Xplore-PATHO℠
100%
of known microbes

Standard cultures
10%
of microbes

Aperiomics Xplore-PATHO℠ Test

The most advanced test to identify every known pathogen.

Our proprietary Xplore-PATHO℠ test uses deep shotgun metagenomic sequencing to examine up to 100% of the DNA fingerprint—as opposed to the PCR, 16S, or 18S testing used by our competitors, which can only examine ~0.001% of the genetic fingerprint. Our testing is able to screen more specifically for organisms that can't be tested for or pinpointed using culture, antigen/antibody testing, or PCR testing.

	Metagenomic Shotgun	16s rRNA	PCR
Identifies the following all at once:			
bacteria	✔	✔	✘
viruses	✔	✘	✘
fungi	✔	✘	✘
parasites	✔	✘	✘
% of Genome Examined	~100%	~0.001%	~0.001%
Differentiates Species	✔	✘	✘
Cost per Species Tested	$0.03–0.05	$0.01–0.03	$50–300

About Aperiomics

Aperiomics was founded on the belief that we can shift the paradigm of infection identification for better patient outcomes.

We are a group of experienced clinicians and researchers who are passionate about leveraging the power of technology to advance human health and quality of life.

CRYSTAL R. ICENHOUR, PHD
CEO and Co-Founder

Dr. Icenhour has a PhD in Pathobiology and Molecular Medicine and is an expert in infectious disease. She holds two patents, and is a respected and prolific researcher, author, and presenter.

ALVIN (YUAN) CHEN, PHD
Chief Technology Officer and Co-Founder

Dr. Chen has a PhD in Genetics and Bioinformatics and is an expert in genomics. He developed the Aperiomics Xplore-PATHO℠ test.

C. ALEXANDER VALENCIA, PHD
Chief Clinical Officer

Dr. Valencia is a clinical molecular geneticist and an expert in next-generation sequencing technologies. He is widely published in peer-reviewed journals and has made significant contributions to the field.

APERIOMICS™

For more information visit **aperiomics.com.**