IGeneX Inc.

OUT WITH THE OLD.

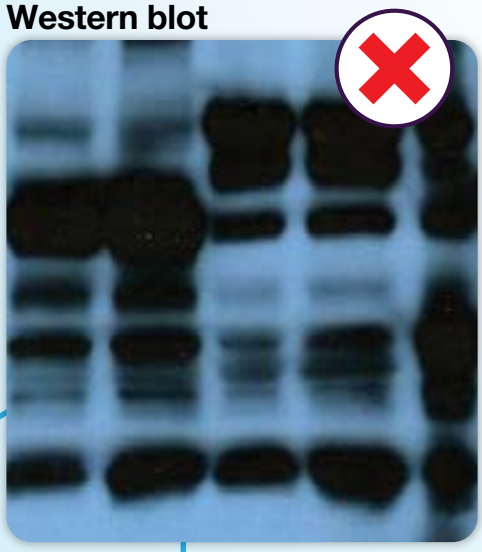
IN WITH THE NEW.

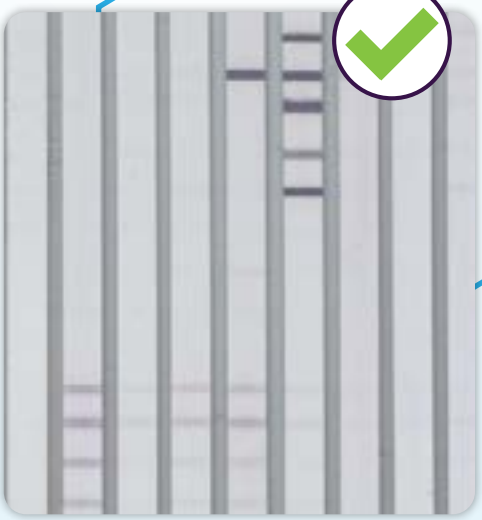
THE IGENEX IMMUNOBLOT REPLACES THE WESTERN BLOT

The Western blot technique for detecting antibodies to tick-borne diseases was introduced in the late 1970s. Technological advancements over the past 50 years have lead to tests that go beyond what can be accomplished with the Western blot. The most significant advancement has been the introduction of the IGeneX ImmunoBlot. The IGeneX ImmunoBlot has two key differentiators. First, it looks for multiple pathogens, instead of one with the Western blot. And second, it uses recombinant proteins instead of proteins from natural sources, leading to a more specific test.

THE DIFFERENCE IS CLEAR

Western blot





ImmunoBlot

Western blots are blurry, difficult to read, and lead to misdiagnosis.
IGeneX ImmunoBlots are clear, precise, and much easier to interpret.

ADVANTAGES OF THE IGENEX IMMUNOBLOT OVER THE WESTERN BLOT

- ✓ Requires **only one** test to detect multiple species. Western blotting would require multiple tests.
- ✓ Uses specifically created recombinant proteins and not proteins from cultures
- ✓ Produces consistent bands that are easier to interpret
- ✓ Detects the full spectrum of disease: early, active, and late-stage
- ✓ Does not require a confirmation test

IGENEX IMMUNOBLOT IS MORE SENSITIVE

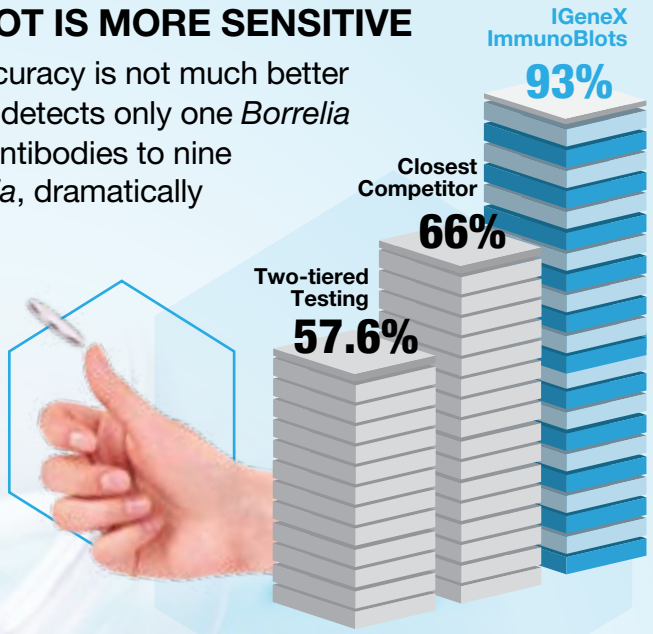
Standard Lyme testing accuracy is not much better than a coin flip because it detects only one *Borrelia* species. IGeneX detects antibodies to nine different species of *Borrelia*, dramatically increasing sensitivity.

STANDARD TESTS

- ✓ *B. burgdorferi B31*

IGENEX IMMUNOBLOT

- ✓ *B. burgdorferi B31*
- ✓ *B. burgdorferi 297*
- ✓ *B. californiensis*
- ✓ *B. mayonii*
- ✓ *B. afzelii*
- ✓ *B. garinii*
- ✓ *B. spielmanii*
- ✓ *B. valaisianaa*
- ✓ *B. bissettii*



Sources: 1. The Accuracy of Diagnostic Tests for Lyme Disease in Humans, A Systematic Review and Meta-Analysis of North American Research. PLoS ONE 11(12): e0168613.
2. Pilot Study of Immunoblots with Recombinant Borrelia burgdorferi Antigens for Laboratory Diagnosis of Lyme Disease
3. An ultra-high-density protein microarray for high throughput single-tier serological detection of Lyme disease

IGENEX IMMUNOBLOT IS BETTER MADE

Follow the science. The IGeneX ImmunoBlot uses recombinant proteins instead of proteins from natural sources. Recombinant DNA technology provides a more efficient method to obtain large amounts of proteins. Additionally, by using recombinant technology, IGeneX scientists are able to create DNA sequences that would not naturally exist under normal circumstances, leading to more sensitive and specific tests.

ISOLATE THE GENES

Pure genes are stored and ready to be cloned by IGeneX researchers.

1

EXPRESS THE GENES

The genes of interest are put into a host cell and expressed as a new protein. This is the so-called "recombinant protein."

2

PURIFY THE PROTEINS

The protein of interest is isolated and purified, and the non-proteinaceous materials are removed.

3

SPRAY THE PROTEINS

The purified recombinant proteins are sprayed in precise amounts onto specific locations on a membrane strip.

4

IGENEX IMMUNOBLOT IS VALIDATED

43 samples, positive on Lyme ImmunoBlots, were tested by Western blots prepared individually from the following nine species of Lyme *Borrelia*: *B. burgdorferi B31, B. burgdorferi 297, B. mayonii, B. californiensis, B. afzelii, B. garinii, B. spielmanii, B. bissettii,* and *B. valensianaa.* When only a *B. burgdorferi B31* Western blot was performed, only 14 of the 43 Lyme ImmunoBlot-positive samples were Western-blot-positive. However, when all nine Western blots were performed, the remaining 29 samples (68%) were detected.

68% of patients would have been missed without the IGeneX ImmunoBlots!

IGENEX IMMUNOBLOTS ARE AVAILABLE FOR LYME, TBRF, BABESIA, AND BARTONELLA. CONTACT US TO LEARN MORE.

556 Gibraltar Dr. Milpitas, CA 95035 | igenex.com | 1-800-832-3200

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