

DuPont Qualicon RiboPrinter® System

APPLICATION PROFILE

Shades of a mystery organism: Appearance can fool a lab, but genetic fingerprints won't

Bacterial organisms can be tough to track even when they don't behave like chameleons, but when they do, following their trail can be nearly impossible.

A pharmaceutical manufacturer discovered just how tough it can be when routine monitoring of contact plates showed that a product was contaminated with a mystery organism that appeared to be pink.

Another pink organism was discovered in a raw material, but isolates tested using biochemical and fatty-acid profile assays turned up inconsistent and irreproducible results that confused the Quality Control experts. Production was halted until the situation could be resolved.

In frustration, the QC microbiologists sent samples of organisms found throughout processing to the molecular typing laboratory at Qualicon for analysis.

RiboPrint® patterns of the microbial flora showed startling results: Isolates from the product's pink organism and the one from the raw material were different (see Figure 1). They were not the same organism. However, patterns from the product isolate and one from process water matched — even though the colonies from the water did not appear pink.

Organisms can look different depending on their environment and fool even expert eyes. They cannot, however, fool genetics-based tests. By using the RiboPrinter® microbial characterization system, this pharmaceutical company was able to rid its product of an unwanted organism and resume production.

The accurate and quick analysis saved the company thousands of dollars in down time and shipments to customers could soon resume.

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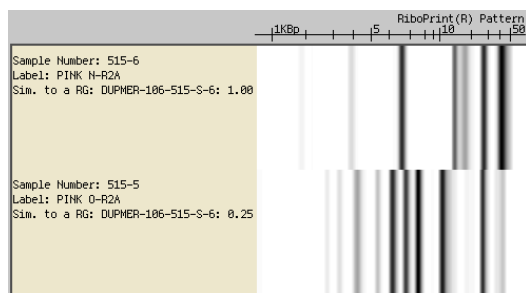


Figure 1. RiboPrint® patterns proved that the true source of contaminations was an organism that looked different, but had the same DNA fingerprint as the “pink” bacteria found in finished product.



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