

## Nail and Paronychia Pathogens

Our nail and paronychia pathogen testing utilizes quantitative Real-Time PCR to rapidly analyze your patient's sample in 24 hours. RT-PCR technology precisely detects the correct pathogen(s) and identifies antibiotic drug resistance. This allows providers the ability to prescribe timely and effective treatment.

### Rapid and accurate solution eliminates guesswork in diagnosing and treating nail and paronychia infections

Although half of all nail disorders can be categorized as onychomycosis, a chronic fungal infection, it is not always possible to identify the disease accurately by just looking at the symptoms.<sup>1</sup> Onychomycosis is not self-healing and may be a source of more widespread fungal lesions on the skin or nails.<sup>1</sup>

Molecular diagnostic testing helps to identify the species of microbes involved to provide a more definitive diagnosis, so effective treatment can begin sooner.

### Accurate diagnosis within 24 hours with real-time PCR for pathogen identification and antibiotic resistance detection

- PCR, a molecular technique, can be used to precisely analyze the genetic material of pathogens
- Provides a more definitive diagnosis than POC antigen assays
- 24-hour turn-around from specimen receipt
- Higher accuracy than conventional culture<sup>1</sup>

### Helps improve clinical confidence and decrease patient risks

- Detects polymicrobial infections
- Unaffected by concurrent antibiotic use
- Identifies potential antibiotic resistance
- Aids in quick clinical decision-making
- Reduces false negative results
- Aids in antibiotic stewardship
- Reduces potential unnecessary drug exposure and adverse events

1. Geggel, L. (2017 Jun 12) Nail Fungus: Symptoms and treatment. LiveScience. Retrieved from <https://www.livescience.com/34786-nail-fungus-symptoms-treatment.html>

2. Rhoads, D., Wolcott, R., Sun, Y., Dowd, S. (23 February 2012). Comparison of culture and molecular identification of bacteria in chronic wounds. Int. J. Mol. Sci., 13, 2535-2550. Retrieved from [www.mdpi.com/journal/ijms](http://www.mdpi.com/journal/ijms)

### Nail and Paronychia Pathogens

#### Bacterial

Bacteroides fragilis, vulgatus  
Enterobacter aerogenes, cloacae  
Enterococcus faecalis, faecium  
Escherichia coli  
Fusobacterium nucleatum, necrophorum  
Klebsiella pneumoniae, oxytoca  
Peptostreptococcus anaerobius, asaccharolyticus, magnus, prevotii  
Prevotella bivia, loeschei  
Proteus mirabilis, vulgaris  
Pseudomonas aeruginosa  
Serratia marcescens  
Staphylococcus aureus  
Staphylococcus (coagulase negative: epidermidis, haemolyticus, lugdunensis, saprophyticus)  
Streptococcus agalactiae (Group B strep)

Streptococcus pyogenes (Group A strep)

#### Fungal

Aspergillus flavus, fumigatus, niger, terreus  
Blastomyces dermatitidis  
Candida albicans, glabrata, parapsilosis, tropicalis  
Cladosporium herbarum  
Curvularia lunata  
Epidermophyton floccosum  
Fusarium oxysporum, solani  
Malassezia furfur, restricta, sympodialis, globosa  
Microsporum audouinii, canis, gypseum  
Trichophyton mentagrophytes/interdigitale, rubrum, soudanense, terrestre, tonsurans, verrucosum, violaceum  
Trichosporon mucoides, asahii

### Antibiotic Resistance

**VanA, VanB** (Vancomycin Resistance genes)

**mecA** (Methicillin resistance gene)

**ermB, C; mefA** (Macrolide Lincosamide Streptogramin Resistance)

**qnrA2** (Fluoroquinolone resistance genes)

**tet M** (Tetracycline resistance genes)

**SHV, KPC Groups** (Class A beta lactamase)

**CTX-M1 (15), M2 (2), M9 (9), M8/25 Groups** (Class A beta lactamase)

**IMP, NDM, VIM Groups** (Class B metallo beta lactamase)

**ACT, MIR, FOX, ACC Groups** (AmpC beta lactamase)

**OXA-48, -51** (Class D oxacillinase)

**PER-1/VEB-1/GES-1 Groups** (Minor Extended Spectrum beta lactamases)

**dfr (A1, A5), sul (1, 2) probes** (Trimethoprim/Sulfamethoxazole resistance)