About our guest
Nick Meyerson, PhD
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A molecular thermometer for the future

Season 2, Episode 7

Episode notes

There are all sorts of molecular tests to tell if you're infected with something specific, but what do you use when you're not sure what you might have? You might use a thermometer as a first step, but wouldn't it be nice if that thermometer was a bit more high tech?

In this episode we meet Dr. Nick Meyerson, CEO and co-founder of Darwin Biosciences, who's team is working to develop the "molecular thermometer of the future." We hear about how this physicist transitioned into molecular biology and then latched onto saliva as a sample of choice to detect early molecular indicator of infection. Nick does a great job of explaining his path leading up to the founding of Darwin Bio, the challenges of founding a company in early 2020, why saliva is their

sample of choice, the beautiful simplicity of isothermal amplification methods, and the lesser-known funding routes of working with government agencies like the Defense Threat Reduction Agency (DTRA). Join us as we dive into the molecular nature of non-specific detection of infections, how it's done using no electricity, it's potential applications, and what the future holds for this field.

Nick's recent publications

1. Yang Q, Meyerson NR, Paige CL, Morrison JH, Clark SK, Fattor WT, Decker CJ, Steiner HR, Lian E, Larremore DB, Perera R, Poeschla EM, Parker R, Dowell RD, Sawyer SL. Human mRNA in saliva can correctly identify individuals harboring acute infection. mBio. 2023 Nov 9;14(6):e0171223.
2. Yang Q, Meyerson NR, Clark SK, Paige CL, Fattor WT, Gilchrist AR, Barbachano-Guerrero A, Healy BG, Worden-Sapper ER, Wu SS, Muhlrad D, Decker CJ, Saldi TK, Lasda E, Gonzales P, Fink MR, Tat KL, Hager CR, Davis JC, Ozeroff CD, Brisson GR, McQueen MB, Leinwand LA, Parker R, Sawyer SL. Saliva TwoStep for rapid detection of asymptomatic SARS-CoV-2 carriers. Elife. 2021 Mar 29;10:e65113.

"...We think that our product could be used to the advantage of companies developing antiviral, or antibacterial drugs. And the reason is, because our device detects when your immune system gets turned on, which happens before you know that you're sick, before you have symptoms, or even in some cases before the pathogen titer goes up to a significant extent, it could be used as a tool to tell you to administer a drug sooner than you would otherwise."

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