

Patent Issued for "Trojan Horse" Antimicrobial to Thwart Pathogen Resistance

GREENSBORO, NC, UNITED STATES, March 20, 2025 /EINPresswire.com/ --Antibiotic resistance is one of the world's most exigent problems, with available treatment options rapidly losing efficacy. A.T. Research Partners has secured intellectual property for a novel approach that harnesses nature's most fundamental pathway, nutrition. This approach flips the script on drug delivery. Rather than seeking out pathogens with systemic antimicrobials, this technique employs chemotaxis to attract pathogens to ingest a microdose of biocidal agents embedded within a target nutrient.

The patented art describes a targeted delivery system with biocidal dosimetry calculated to match the scale of the pathogen colony, or relative concentration in suspected sepsis, promising greater safety and efficacy

The "Trojan Horse" encapsulation strategy features a polydopamine-coated nanoparticle loaded with antibiotic, antifungal, or antiparasitic agents that mimics microbial food sources and chemotactically attracts pathogens to ingest the targeted antimicrobial.

while reducing systemic administration, compared to conventional antibiotic protocols. The "Trojan Horse" encapsulation strategy features a polydopamine-coated nanoparticle loaded with antibiotic, antifungal, or antiparasitic agents that delivers antimicrobials as "food" for endogenous eradication.

The primary embodiment is formulated with food-grade ingredients, ensuring patient safety through universally tolerated materials. In this system, the concentration of active biocidal agents, upon ingestion, can dismantle the pathogen digestive system.

As the curtain closes on the "Golden Era" of medicine, traditional antimicrobials are routinely failing, absent a pipeline of promising candidates. A.T. Research Partners is eager to collaborate

with a pharmaceutical company committed to solving resistance and efficacy challenges in infectious and parasitic diseases to develop and commercialize this innovation. The patent, Pathogenic affinity pathway of infectious or parasitic organisms for nanogram and picogram dosimetry prophylaxis or cure, was issued on February 18, 2025 (U.S. Patent No. 12,225,906).

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About AT Research Partners: A.T. Research Partners is an invention origination company focused on developing intellectual property. Visit www.atresearchpartners.com to learn more about their expertise, achievements, and intellectual property portfolio.

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