

EVÖQ Nano expands antimicrobial medical device platform, demonstrates efficacy across multiple device applications

November 19, 2024

Four integration methods aim to combat healthcare-associated infections & improve device performance

SALT LAKE CITY, Utah (Nov. 19, 2024)—EVÖQ Nano, a nanoscience company that engineers novel nanoparticles for the life, material, and textile science industries, today announced its antimicrobial medical device platform is demonstrating success in a range of applications aimed at combating healthcare-associated infections (HAIs) and improving the performance of implantable medical devices.

The company's proprietary nanoparticle, EVQ-218, is successfully demonstrating antimicrobial efficacy when tested against multiple biofilm and proliferation assays in four unique application methods:

"Existing antimicrobial solutions for medical devices have not met critical needs," said Shaun Rothwell, EVÖQ Nano CEO. "By incorporating EVQ-218 into various phases of the manufacturing process, the next generation of medical devices has the potential to be equipped with antimicrobial protection to safeguard against infections and complications."

HAIs affect over 1 million hospital patients annually,¹ leading to significant morbidity, mortality, and approximately \$10 billion in yearly healthcare costs.² Extensive lab testing on catheters, luers, fittings, and coatings utilizing EVQ-218 shows strong antimicrobial protection with a >4-log reduction (99.99%) against leading pathogens implicated in HAIs.³ Importantly, the integration of EVQ-218 preserves the original materials' mechanical and functional properties, ensuring finished products perform as engineered.³

Novel mechanism of action

EVQ-218 is the first stable, nonemissive, pure silver nanoparticle, opening opportunity for widespread therapeutic use.⁴ Unlike conventional nanosilvers that often trigger antimicrobial resistance (AMR) by rupturing bacterial cell walls, EVQ-218 employs a novel mechanism of action that kills bacteria from the inside.⁴

- EVQ-218 stops bacterial growth by sequestering sulfur.
- The sequestration of sulfur inhibits metabolic activity within the bacterial cell without compromising cell structures or lysing the cell wall. This

avoids activation of bacterial mutations that contribute to antimicrobial resistance.

- In contrast, nanoparticles with silver ions rupture cell walls, triggering activation of resistance pathways. Characterized as a new form of silver by the journal of the American Chemical Society, ACS Omega, EVQ-218 is the first and only non-ionic silver nanoparticle with effective antimicrobial action devoid of cytotoxicity.⁴ The discovery and development of a non-ionic silver nanoparticle represents a pivotal innovation, unlocking the full therapeutic potential of silver without its detrimental trade-offs.

About EVÖQ Nano

EVÖQ Nano is a nanoscience company that engineers novel nanoparticles for the life science, materials science, and textile science industries. The company's multi-patented, high-volume laser nanofabrication process creates nanoparticles that are uniformly sized, surfactant-free, with consistent spherical morphology, and no ion emissions under standard and stressed conditions. These properties represent a significant advancement in nanoscience with the potential for a wide range of applications. To learn more, visit evoqnano.com.

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