Silver Nanoparticle-Enhanced Photosensitizers as Antibacterial Agent

TECHNICAL FIELD
Topical Antibacterial Agent

APPLICATION
This technique attaches conventional photosensitizers to silver nanoparticles to create a type of novel topical antibacterial & antibiofilm agents.

DESCRIPTION
Dr. Peng Zhang and colleagues have developed a type of novel antibacterial agents by attaching conventional photosensitizers to silver nanoparticles. This new type of agents combines the effects of photoinactivation by photosensitizers with silver’s antibacterial activity to create a type of effective and versatile antibacterial and antibiofilm agents.

When the agent is used to make a topical cream, the end result will be an improvement over current wound healing and infection prevention creams, such as Neosporin®. The broad-spectrum antimicrobial property overcomes some problems associated with the antibiotics through the use of silver nanoparticles, which bacteria are unknown to develop resistance to. In addition, this agent presents only minor adverse effects on humans and is biodegradable.

ADVANTAGES
• Broad-spectrum antimicrobial activity
• Overcomes antimicrobial resistance
• Minor adverse effects on humans

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STATUS
US Provisional Filed

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