

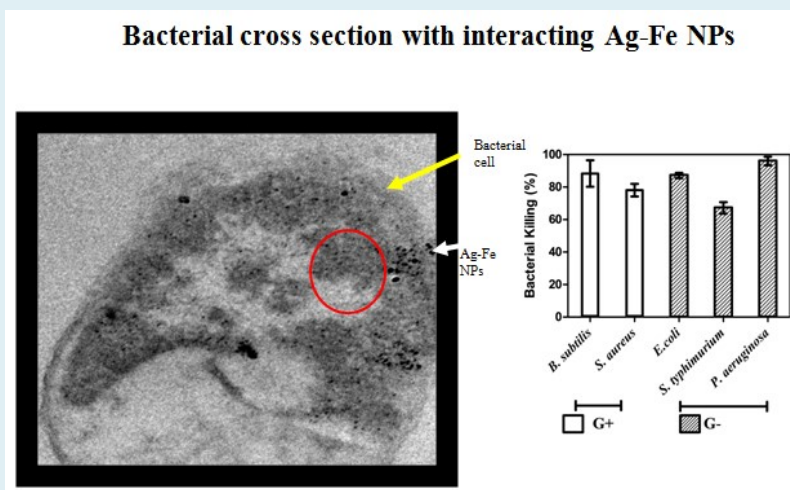
Layered Antibacterial Nanocomposite for Safer and Cleaner Water and Beverages

Salient features

- Synthesis of silver mediated with other metals is done to form nanocomposites to test antibacterial application
- Ag-Fe NPs kill 99% Gram-positive bacteria within 60 min at very low concentration (1.2 µg/mL)
- Ag-Fe NPs kill 99% Gram-negative bacteria within 30 min at concentration (19.5 µg/mL).
- Ag-Fe NPs significantly reduced the bacterial load in water, juice and milk.

Advantages

- ✓ Antibacterial concentration of silver is reduced to 16%, reducing the cost of material several fold
- ✓ The Ag-Fe NPs is recyclable upto 5 cycles of repeated antibacterial use
- ✓ Has a potential application in water purification units.



Process Technology / Product developed by

Dr. Neetu Kumra Taneja, Department of Basic and Applied Sciences
 Dr. Divya Sachdeva, Contract Research Organization
 National Institute of Food Technology Entrepreneurship and Management (NIFTEM), Kundli
 131028, Sonapat, Haryana
drneetu.niftem@gmail.com, drdivya19sachdev@gmail.com

Year

2020

Source of funding

Internal Funding of NIFTEM

More information

Status of commercialization / Patent / Publication

Indian Patent 349010 (Granted) in 2020 and concepts sent for commercialisation to applicable industries (safe water, healthcare and food processing industries).