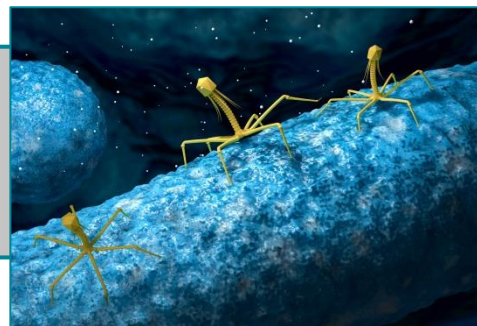


Antibacterial films using phagotherapy

bacteriophage / antibiotic / bacteria / biofilm / phagotherapy



CONTEXT

Bacteria in biofilms develop higher resistance to bactericides, biocides or antibiotics than planktonic bacteria.

The increased resistance of various pathogenic bacteria against usual antibiotics and biocides, the lack of new molecules and the increasing number of nosocomial infections in hospitals are becoming a threat to healthcare in the world.

DESCRIPTION

Bacteriophages which specifically infect et kill bacteria are considered a good substitute to antibiotics.

Our laboratory had successfully investigated the ability of polyelectrolyte multilayer films (PEM) to store specific bacteriophages and maintain their infectivity for a few months. In this context, bacteriophages are able to kill selectively bacteria close to the surface of the PEM.

The films are expected to regenerate itself by absorbing part of the new bacteriophages released after the lysis of the infected bacteria.

Having the bacteriophages on a PEM film contributes to a better antibacterial activity, specially in the pharmaceutical and food-processing fields.

COMPETITIVE ADVANTAGES

- Increased efficacy for the uses described above, due to the formulation on PEM
- Bacteriophage = no antibiotic resistance issues
- High bacterial specificity (targeting bacteria species)



Markets & applications

Pharmaceutical:

- ❖ decontamination, prosthesis, implants, wounds

Food-processing:

- ❖ packaging, preservation



Development stage

TRL 4: results obtained *in vitro* on pathogenic bacterial colonies



Intellectual property

Secret know-how



Target partnership

Know-how licensing

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