



Contact-based antimicrobial (nano)materials

Designing new materials capable to provide antimicrobial and pro-healing capacity without releasing any active components is challenging but feasible.

BACKGROUND

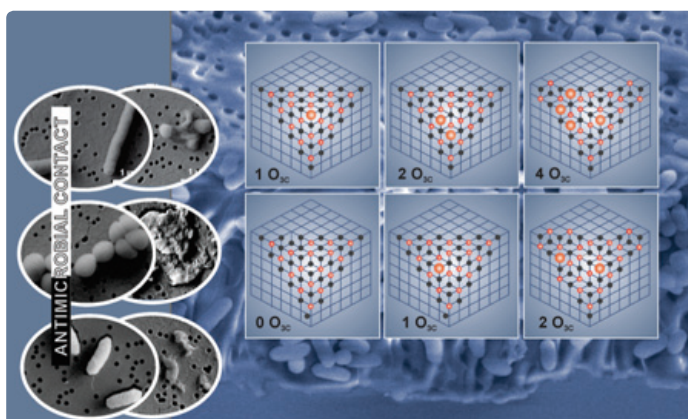
New antibacterial strategies are required to face the problem of antimicrobial resistances and treatment of biofilms. Most of the interest is focused on nanotechnology and designing so called "nanobiotics". Although efficient in antimicrobial activity, nanoparticles are suffering from size-related toxicity and non-selectivity. Novel technologies with contact-based approach are needed as more efficient solution.

TECHNOLOGY

We have developed several technologies that enable efficient and safe contact-based bactericidal effects in a range of gram+ and gram- bacteria. They are applicable in designing surfaces of medical devices, materials and tools used in surgery (i.e. sutures, dressings), first-aid materials (i.e. patches, gauzes) among others.

OUR OFFER

- Designing novel antimicrobials and lab-prototypes
- General characterization of materials for biomedical applications (composition, morphology, surface, etc)
- *in vitro* antimicrobial, toxicity and stability testing



EXPERTS

DDr. Marija Vukomanović

AVAILABLE FOR

- Joint Research Project
- Contract Research
- EU or bilateral call funding

DEVELOPMENT STATUS

Technology Readiness Level 4

IPR

EU patent: EP2863751A1
National patent: SI24094 (A)

KEYWORDS

- antimicrobials
- contact based mechanism
- functionalized Au
- nanotextured MgO
- piezo-polymers
- materials characterization
- antimicrobial testing
- *in vitro* stability testing
- biocompatibility testing

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