New Antibacterial Compound Extracted from Microalgae

KEY ACHIEVEMENTS
- Chlorophyll derivative isolated from green microalgae
- Obtained by maceration with polar organic solvents
- Active against Gram-positive bacteria of ESKAPE group.
- Tested against S. aureus ATCC 25923 and Methicillin-resistant S. aureus (MRSA) ATCC 43300), E. faecium (ATCC 19434), and B. subtilis 168

KEY COMPETITIVE ADVANTAGES
- Compound active in the absence of light at µg/mL
- Soluble in water and polar solvents
- Easily purified

CHARACTERISTICS
- Bacteriostatic or non-lytic bactericide on S. aureus
- Penetration inside bacterial cells
- Non-hemolytic in vitro
- Possible MoA: increased ROS production

UPCOMING CHALLENGES
- Compound stabilisation/toxicity in vivo and in vitro
- Mode of action of compound
- Expand the activity to Gram-negative bacteria
- Oral bioavailability to be tested. Similar compounds are used as dietary supplement.
- Toxicity to be tested. Similar compounds are not toxic for topical applications

PARTNERSHIP SOUGHT
- Research collaboration and/or licensing
- Looking for a partner in need of a new natural origin antibacterial agent and that could run more tests on the compound

INTELLECTUAL PROPERTY
- Patent pending WO2024023259A1, covering the compound structure, method of purification, and application
- Microalgae strains deposited in BEA (Banco Español de Algas)