



# NOVEL ANTIBIOTIC AND ANTITUMOR AGENT PRODUCED BY THE DEEP SEA ACTINOBACTERIUM STREPTOMYCES CARNOSUS

## TECHNOLOGY OFFER



### COMPETITIVE ADVANTAGES

- ✓ **Wide and international potential market**, as **one novel natural product** is made available with cytotoxic activity against different tumour cell lines and antibacterial activity against pathogenic bacteria.
- ✓ **Simple, short and economic biotechnological process**: our method allows the production of said compound by fermentation, rather than by chemical synthesis.

### INNOVATIVE ASPECTS

- ✓ The present invention represents a solution to the need for new antibiotic compounds and antitumor agents with biomedical potential in the treatment or prevention of infectious diseases caused by Gram positive pathogenic bacteria.
- ✓ It also represents a solution to the need for simple, short and economic procedures for obtaining said compounds with antibacterial and antitumor activity as the method of the invention allows to produce such compounds by fermentation with actinobacteria, rather than by chemical synthesis, which is more complex, lengthy and costly.

### ABSTRACT

Marine environments are emerging as a source of new natural products of pharmacological importance and coral reefs have revealed as a medium that should be investigated to discover structurally unique natural products with biomedical relevance. The development of new drugs is necessary due to the increasing need for new antitumor agents with improved activity, fewer undesirable side effects and greater selectivity, and to the increasing emergence of antibiotic-resistant pathogenic bacteria.

The present invention provides a new natural product with cytotoxic activity against different tumour cell lines and antibacterial activity against pathogenic bacteria, which is efficiently produced by the fermentation of a novel bacterial strain of *Streptomyces carnosus*.

It thus relates to a bacterial strain of *Streptomyces carnosus*, to a supernatant or extract of a culture of such bacterial strain, to the use of the bacterial strain for the production of certain lobophorin, to a process for obtaining said lobophorin, to a pharmaceutical or cosmetic composition, to the manufacture of a medicament for the treatment of cancer and for the treatment and/or prevention of bacterial infections or for removal and/or prevention and/or inhibition of bacterial biofilm formation, preferably on inert surfaces, i.e. *ex vivo*.

### PATENTS

ES patent applied.

### TYPE OF COLLABORATION

Licence agreement.

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