

Technology Offer

New Macrolactin Antibiotic

Reference Number
TO 02-00115

The Challenge

Antimicrobial resistance of gram-positive and opportunistic gram-negative pathogens is an increasing problem. The most problematic gram-positive bacterium in public health is the methicillin-resistant *Staphylococcus aureus* (MRSA), because it can only be treated with vancomycin and teicoplanin as it is resistant to all other antibiotics and now starts to develop resistance against vancomycin, too. Besides that vancomycin resistant enterococci (VRE) are one of the most important causes of nosocomial infections. As vancomycin-resistance is often associated with multi-drug resistance there are no antibiotics available to treat such VRE-infections. Furthermore gram-negative antibiotic-resistant opportunistic pathogens like *Pseudomonas aeruginosa* cause severe problems in hospital. In summary there is an urgent demand for new alternative antibiotics to combat multi-resistant pathogens .

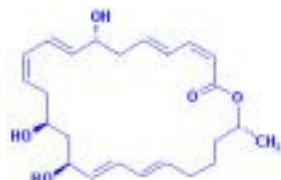
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The Technology

The invention discloses 7-*O*-malonyl macrolactin A, a method for its



Macrolactin A

production, as well as the production strain. 7-*O*-malonyl macrolactin A is a new antibiotic that belongs to the macrolactin family and proved to be the most active compound against selected reference microorganisms and clinical multi-resistant gram-positive and gram-negative pathogens compared to commercially available antibiotics. Especially against vancomycin-resistant enterococci and methicillin-resistant *Staphylococcus aureus* 7-*O*-malonyl macrolactin A shows a strong growth inhibiting effect. Furthermore 7-*O*-malonyl macrolactin A is much less cytotoxic than macrolactin A itself and its so far known derivatives what makes the new compound very interesting for pharmaceutical use.



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Commercial Opportunity

New alternative antibiotics like the inventive 7-*O*-malonyl macrolactin A are urgently needed to combat multi-resistant pathogens and to master the severe problem of nosocomial infections in hospital.

Advantages of 7-*O*-malonyl macrolactin A are

- high activity against a variety of multi-resistant gram-positive and gram-negative pathogens
- strong growth inhibiting effect on vancomycin-resistant enterococci and methicillin-resistant *Staphylococcus aureus*
- low cytotoxicity
- easy and cost efficient production by fermentation

Patent situation

German patent application was filed September 2004. An international application will follow.

Intellectual Property
Asset Management

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