

Anti Biofilm for the Treatment of Acne Vulgaris and Increased Susceptibility of Certain Bacterial Strains For Antibiotics (Hadasit)

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Need:

The market for acne drugs, largely based on 3 drugs and mostly cosmetic in purpose, is >\$3B and forecast to grow to >\$5B next decade. These numbers may be underestimates based on the psychological impact of disease and reticence to discuss it as well as use of antibiotics that is not coded to acne in particular. 50M people in the US alone suffer from acne, and most do not treat acne with drugs. The mechanism of anti-biofilm compounds is to be used in combination with existing antibiotics and alongside other treatments. Other bacteria that form biofilms are future indications for development, and a potential future market of >\$10B in a total antibiotic market projected at >\$50B in the 2020s

There is a need to increase the susceptibility of bacteria to conventional antibiotics. The ability of bacteria to form biofilms is a significant mechanism for enhancing bacterial resistance to antibiotics. Therefore, compounds that inhibit biofilms should increase the susceptibility of certain bacterial strains to conventional therapy.

Innovation:

Novel compounds with anti-biofilm activity, to be employed as a strategy for increasing bacterial susceptibility to antibiotics.

Findings:

Several novel compounds have been identified on the basis of their ability to block biofilm formation in multiple bacterial strains such as that causing Acne vulgaris.

Enhanced susceptibility of bacterial biofilms to antibiotic treatment was evaluated in various biofilm model systems. Use of these novel compounds for pre-treatment during biofilm formation or for treatment of mature biofilms increased the susceptibility of certain bacterial strains towards conventional antibiotics.

Indications / Applications:

Combination therapy based on the use these compounds for pre-treatment or concomitant treatment with antibiotics to increase the efficacy of treatment.

Competitive Advantages:

Novel compounds with potential to address the unmet need of treating bacteria in biofilms by increasing the success rate of conventional antibiotic treatment.

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