

Current Drug Metabolism



Title: <i>Propionibacterium acnes</i> in the Pathogenesis and Immunotherapy of Acne Vulgaris

VOLUME: 16 **ISSUE:** 4

Author(s): Pei-Feng Liu, Yao-Dung Hsieh, Ya-Ching Lin, Aimee Two, Chih-Wen Shu and Chun-Ming Huang

Affiliation: Department of Medicine, Division of Dermatology, University of California, San Diego, 3525 John Hopkins Court, Rm. 276, San Diego, CA, 92121, USA.

Keywords: Acne vulgaris, Immunotherapy, *Propionibacterium acnes*.

Abstract: Acne vulgaris, a multi-factorial disease, is one of the most common skin diseases, affecting an estimated 80% of Americans at some point during their lives. The gram-positive and anaerobic *Propionibacterium acnes* (*P. acnes*) bacterium has been implicated in acne inflammation and pathogenesis. Therapies for acne vulgaris using antibiotics generally lack bacterial specificity, promote the generation of antibiotic-resistant bacterial strains, and cause adverse effects. Immunotherapy against *P. acnes* or its antigens (sialidase and CAMP factor) has been demonstrated to be effective in mice, attenuating *P. acnes*-induced inflammation; thus, this method may be applied to develop a potential vaccine targeting *P. acnes* for acne vulgaris treatment. This review summarizes reports describing the role of *P. acnes* in the pathogenesis of acne and various immunotherapy-based approaches targeting *P. acnes*, suggesting the potential effectiveness of immunotherapy for acne vulgaris as well as *P. acnes*-associated diseases.

Close

Print this page