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**A facial cleanser containing thymol and terpineol reduced *Propionibacterium acnes* burden and improved acne symptoms****Chao Yuan<sup>1</sup>, Mingming Pu<sup>2</sup>, Chung-Ching Chu<sup>2</sup>, Zhenyu Tang<sup>2</sup>, Zheng Du<sup>2</sup>, Kevin Hermanson<sup>3</sup>, Stacy S Hawkins<sup>3</sup> and Anindya Dasgupta<sup>4</sup>**<sup>1</sup>Shanghai Skin Disease Hospital, China<sup>2</sup>Unilever, China<sup>3</sup>Unilever, USA<sup>4</sup>Unilever, India

The pathogenesis of acne is multifactorial. While the sequence of events involved in acne pathogenesis have not yet been fully established, the strong co-relationship between the presence of acne and growth of the microorganism *Propionibacterium acnes* has led to suggestions that *P. acnes* is an important microbial driver for acne. Recent studies have also shown an increased level of *Staphylococcus epidermidis* co-relating with acne. As reported separately, we have shown that the plant derived monoterpenes of thymol and terpineol act synergistically with cutaneous antimicrobial lipids against a wide range of bacteria. To better understand the impact of thymol and terpineol on acne microbiome, a clinical study was conducted involving 30 acne volunteers aged 18-30 years and 30 healthy volunteers of the same demographic. The acne volunteers were given a facial cleanser containing thymol and terpineol to use twice daily for four weeks, while the healthy volunteers were given a mild facial cleanser. Baseline results showed a change in microbial ecology in acne subjects, with a significant increase of *P. acnes* and *S. epidermidis* as compared to healthy subjects. Over the 4-week clinical study, acne subjects who used the facial cleanser containing thymol and terpineol demonstrated a reduction in *P. acnes* and *S. epidermidis* levels and a concurrent reduction in acne counts. These results show that thymol and terpineol can normalize the level of *P. acnes* and *S. epidermidis* in acne to a state that is closer to health, leading to a reduction in acne symptom.

**Biography**

Chao Yuan has received her PhD from Université Bourgogne Franche-Comté (UBFC). She is the Principle Investigator of the clinical trials in Skin and Cosmetic Research Department in Shanghai Skin Disease Hospital. She is a Committee Member in Cosmetology group in Chinese Society of Dermatology and also a Committee Member in Allergy Group in Shanghai Medical Association Branch of Allergy. She has published more than 25 papers in reputed journals in both Chinese and English.

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