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## Multiple effects of balm total on personal care

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Oriental medicinal plants are widely used in folk medicine as natural healing remedies with therapeutic effects such as prevention of local infection, inflammation disorders, skin itching or enhancing wound healing. In this study, a recipe, named as Balm Total, was developed as a personal care product base to deliver a range of benefits, including antimicrobial, anti-inflammatory, itching-relieving and wound-healing. It involves the use of several herbal extracts, such as *Glycyrrhiza glabra*, *Sophora flavescens*, *Polygonum cuspidatum*, *Mentha haplocalyx* and *Origanum vulgare*. Balm Total was found to prevent the growth of microorganisms yeast (*Candida albicans*), Gram-negative (*Pseudomonas aeruginosa* and *Escherichia coli*) and Gram-positive bacteria (*Staphylococcus aureus*). The bacteriostatic rates on both the bacteria and yeast were above 99%, showing promising antibacterial and antifungal activities. In the xylene-induced ear-swelling test in mice, Balm Total suppressed the ear swelling ( $p < 0.05$ ). The licking response induced by 4-aminopyridine was significantly reduced by 66.8% ( $p < 0.01$ ). A rabbit ear trauma model was used to evaluate the performance of Balm Total. Percentage of wound area reduction (PWAR) of total number of wounds at Day 5 and Day 11 was 25% and 98%, respectively ( $p < 0.01$ ). Wound healing rate was 33.3% at Day 5 and 75% at Day 11 ( $p < 0.05$ ). The pathological examination demonstrated that at Day 11, the vascularized area was significantly larger in Balm Total treated group than in blank control, fibroblast proliferation was activated and the epidermis demonstrated thickening of stratum spinosum. These results suggest that Balm Total has antimicrobial, anti-inflammatory and antipruritic effects and could accelerate wound healing.

## Biography

Hailiang Lu is currently working as a Supervisor at Infinitus (China) Co. Ltd, China. He has published more than 20 papers in reputed journals.

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