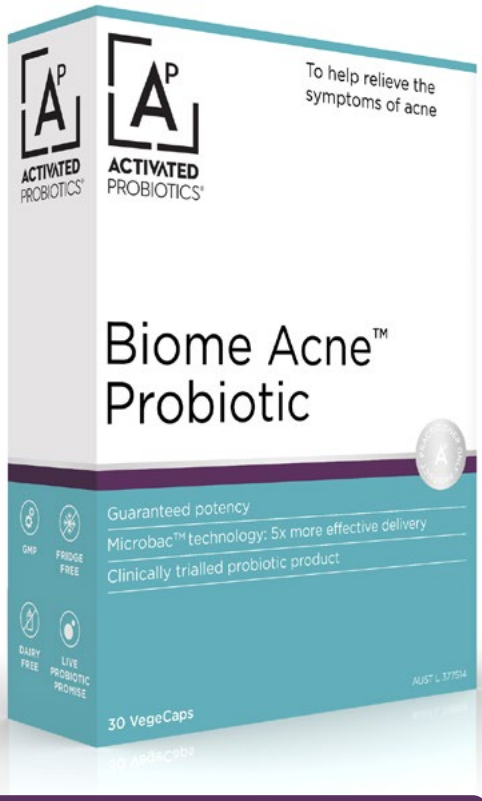
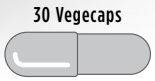
Biome Acne™ Probiotic

To help relieve the symptoms of acne

FOR PROFESSIONAL REFERENCE ONLY



PREMIUM, PRACTITIONER-ONLY PRODUCT



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- Relieves symptoms of acne via the gut-skin axis
- Clinically trialled probiotic strains
- Microbac™ technology: 5x more effective delivery
- Guaranteed potency

INDICATIONS

- Relieves the symptoms of acne
- Reduces skin redness
- Improves healthy skin flora

FORMULATION

Lactobacillus salivarius LS03 (DSM 22776)	1 BLB*
Bifidobacterium breve BR03 (DSM 16604)	0.5 BLB*
Lactobacillus casei LC03 (DSM 27537)	0.5 BLB*
Total live bacteria	**2 BLB***

*BLB = Billion Live Bacteria

DIRECTIONS FOR USE

Adults and children over 12 years: take 1 capsule daily (with or without food), or as directed by your healthcare practitioner.

NO ADDED

GMOs, wheat, gluten, dairy, lactose, fructose, yeast, nuts, seeds, peanut, soy, egg, fish, shellfish, or animal derivatives. No artificial colours, flavours, sweeteners, or preservatives. Suitable for vegetarians and vegans.

GMP | LIVE PROBIOTIC PROMISE | DAIRY FREE | ONE A DAY FORMULATION | FRIDGE FREE | VEGAN

We use an innovative delivery technology (Microbac™), which stabilises the probiotic bacteria by coating them with a layer of plant-derived lipid. This protects the bacteria from the strong acid in the stomach, allowing 5x more bacteria to survive transit through the upper gastrointestinal tract and colonise the intestines, compared to traditional, uncoated bacteria.

ipa INTERNATIONAL PROBIOTICS ASSOCIATION

ACTIVATEDPROBIOTICS™
(03) 9017 5800
sales@activated.co
192-194 Johnston St, Collingwood
VIC 3066 Australia
activatedprobiotics.com.au

ACNE VULGARIS

Acne is a highly prevalent inflammatory skin disorder, affecting approximately 80% of adolescents and young adults aged 11 to 30 years[1, 2]. Due to the appearance of lesions and scarring, acne is associated with significant mental health impacts, such as anxiety, depression, social inhibition and impaired self-esteem, all of which improve with effective treatment[1, 3].

INFLAMMATION AND SKIN DYSBIOSIS IN ACNE

Acne is an inflammatory disease of the pilosebaceous unit (PSU), the hair follicle and associated oil glands, which involves various immunochemical pathways and secondary overgrowth of Cutibacterium acnes[4]. In acne, various underlying metabolic and inflammatory mediators drive excessive sebum (oil) production and induce hyperproliferation of skin cells, creating blocked PSUs and the formation of early acne lesions (comedones)[4]. These structural changes within the PSU facilitate opportunistic overgrowth of C. acnes and create a dysbiotic skin environment which triggers immune-mediated inflammatory responses and the highly inflammatory lesions (papules, pustules, etc.) characteristic of acne[5].

C. ACNES AND PROGRESSION OF ACNE LESIONS

C. acnes (previously known as Propionibacterium acnes) is an opportunistic resident of the skin microbiome that exacerbates acne severity when conditions allow for its overgrowth[1, 5]. Proliferation of C. acnes stimulates a pro-inflammatory immune response and promotes the progression of comedones into more inflammatory acne lesions[1]. Increasing concentrations of metabolites produced by C. acnes in the skin, such as lipases and chemotactic factors, elicit the generation of free radicals and skin cell damage[1]. These effects promote further keratinocyte proliferation and the production of more inflammatory sebum via oxidation of its lipid contents, increasing the comedogenic potential of the skin and worsening the severity of acne[1, 6]. Controlling overgrowth of C. acnes, and addressing underlying metabolic and inflammatory mediators of blocked PSUs, can assist in the reduction of acne symptoms.

THE ROLE OF THE GUT MICROBIOTA AND SPECIFIC PROBIOTICS

The health of the gut microbiota is thought to influence skin health and the development of acne through its effects on the immune system and systemic inflammation, as well as its interactions with the skin microbiome through the production of antimicrobial metabolites which enter circulation and accumulate in the skin[5]. Studies on individuals with acne have demonstrated unfavourable gut microbiota compositions, with lower microbial diversity and a higher ratio of Bacteroidetes to Firmicutes, which may predispose these individuals to immune dysregulation, greater inflammatory responses and thus acne[5]. Specific probiotic strains are being investigated for their ability to harness the links that exist between the gut microbiome, systemic inflammatory processes, and the skin microbiome. For example, in-vitro studies have demonstrated that Lactobacillus salivarius LS03 can inhibit the growth of C. acnes and reduce the production of key inflammatory cytokines in response to its opportunistic growth (1). Following on from this promising mechanistic research, LS03 formed the basis of a probiotic combination that has been clinically trialled for the treatment of acne; a combination of Lactobacillus salivarius LS03 (1 BLB*), Lactobacillus casei LC03 (0.5 BLB*) and Bifidobacterium breve BR03 (0.5 BLB*).

HUMAN CLINICAL TRIAL

In one arm of this recently published double-blind, randomised, placebo-controlled trial, participants with mild to moderate acne received this probiotic formulation once a day for 8 weeks[7]. At week 4, there was a statistically significant ($p < 0.05$) decrease in the number of acne lesions in the participants taking the probiotic (-31.11%) compared to placebo (-10%), measured using the global acne grading system (GAGS) score (see Figure 1). This continued to improve after 8 weeks (-38.89% vs 18.89%, $p < 0.05$). Significant reductions in skin redness (T0 1.82 ± 0.06 vs T2 0.73 ± 0.74, $p < 0.05$) (see Figure 2) and relative abundance of C. acnes (26.8 vs 21.7 log RA, $p < 0.01$) on the skin were observed following the use of this probiotic supplement for 8 weeks, as were significant reductions in sebum production.

The probiotic strains in Biome Acne™ significantly reduce the severity of acne symptoms

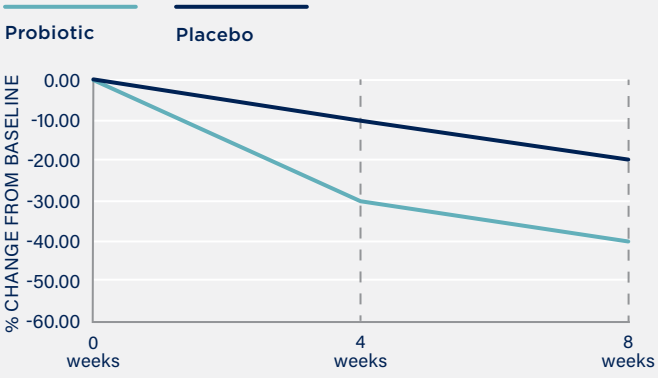

Figure 1: Clinical improvement of acne lesions expressed as percentage change of GAGS score from baseline in the placebo versus the probiotic group.

The probiotic strains in Biome Acne™ significantly reduce skin redness associated with acne

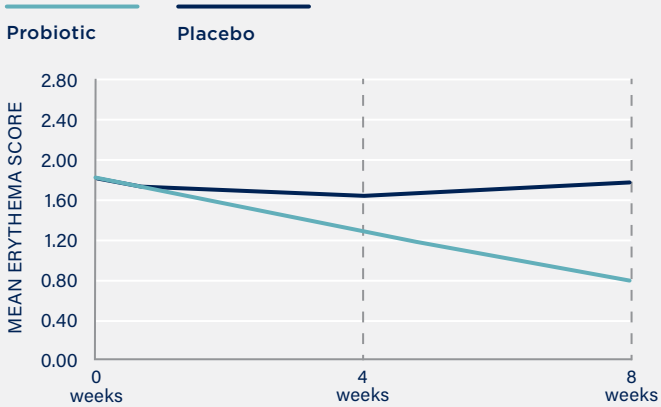

Figure 2: Reductions in skin redness from baseline in the placebo versus the probiotic group.

Resources

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3. Williams HC, Dellavalle RP, Garner S. Acne vulgaris. Lancet. 2012;379:361–72.
4. Tanghetti, Emil. A. (2013). The role of inflammation in the pathology of acne. Journal of Clinical and Aesthetic Dermatology, 6(9), 16–24.
5. Lee, Byun, & Kim. (2019). Potential Role of the Microbiome in Acne: A Comprehensive Review. Journal of Clinical Medicine, 8(7)
6. Jourdan, E., Trompezinski, S., Weber, S., Cadars, B., Larue, F., Ardiet, N., Chavagnac-Bonneville, M., & Sayag, M. (2016). Assessment of a new biological complex efficacy on dysseborrhea, inflammation, and Propionibacterium acnes proliferation. Clinical, Cosmetic and Investigational Dermatology, Volume 9, 233–239.
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