| | | | | |
|---|---|---|---|---|
| **SP1 normalises skin expression of genes implicated in insulin signalling and improves adult acne. Benef Microbes. 2016;7(5):625-630. doi:10.3920/BM2016.0089** | 20 adults with acne | (75 mg/d) × 12 weeks) | | insulin signaling (↓ IGF-1∗ expression, ↑ FOXO1) |

Table 1: Evidence of beneficial probiotic interventions in acne vulgaris. Adapted from: (11)

However, there is still a need to provide further probiotic compositions that deliver a significant improvement in the overall treatment of acne, in particular a significant improvement according to well-known and accepted grading systems such as the Global Acne Grading system (GAGS) or the AGSS (Acne Global Severity Scale).

**Summary**

In one aspect, the present disclosure refers to a probiotic composition comprising:

a. *Lactobacillus rhamnosus* strain deposited under the Budapest treaty in the Spanish Type culture Collection (CECT) under accession number CECT 30031; and
b. *Arthrospira platensis (S. paraca)* strain deposited in the Banco Español de Algas under accession number BEA_IDA_0074B.

In one aspect, the present disclosure refers to the composition as disclosed herein, for use in therapy.

In one aspect, the present disclosure refers to use of the probiotic composition as disclosed herein, in the manufacture of a medicament for easing, reducing, treating and/or preventing acne, in particular of acne vulgaris, more particularly in easing, reducing, treating and/or preventing comedones, in a subject, preferably a human subject, in need thereof.

In one aspect, the present disclosure refers to use of a probiotic composition comprising *Arthrospira platensis (S. paraca)* strain deposited in the Banco Español de Algas under accession number BEA_IDA_0074B, in the manufacture of a medicament for easing, reducing, treating and/or preventing acne, in particular of acne vulgaris, more particularly in easing, reducing, treating and/or preventing comedones, in a subject, preferably a human subject, in need thereof.

In one aspect, the present disclosure refers to use of a probiotic composition comprising *Lactobacillus rhamnosus* strain deposited under the Budapest treaty in the Spanish Type culture Collection (CECT) under accession number CECT 30031, in the manufacture of a medicament for easing, reducing, treating and/or preventing acne, in particular of acne vulgaris, more particularly in easing, reducing, treating and/or preventing comedones, in a subject, preferably a human subject, in need thereof.

**Brief description of the figures**

**Figure 1.** Consort diagram used in the probiotic blend study of example 1.

**Figure 2.** This figure shows the evaluation of the GAGS (Global Acne Grading System) index at 6 and 12 weeks for the Probiotic blend study of example 1.

**Figure 3**. This figure shows the evaluation of the AGSS (Acne Global Severity Scale) index at 6 and 12 weeks for the Probiotic blend study of example 1.

**Figure 4.** This figure shows the evaluation of the number of inflamed acne lesions at 6 and 12 weeks for the Probiotic blend study of example 1.

**Figure 5.** This figure shows the evaluation of the perception and subjective evaluation of the patient.at 6 and 12 weeks for the Probiotic blend study of example 1.

**Description of the invention**

In the present invention, we have tested a novel Maltodextrin-based formula named **Bths-03** containing a mixture of two strains comprising at least 1 x $10^9$cfu (colony forming units) per gram (see example 1). In particular, said mixture of two strains comprised