CLAIMS

What is claimed is:

1. Use of a composition in the manufacture of a medicament for treating a skin condition of a subject in need thereof wherein the medicament is to be administered topically to the subject, wherein the composition comprises a probiotic of the genus Alcaligenes, wherein the probiotic comprises a polynucleotide having a nucleic acid sequence at least 95% identical to the 16s rRNA gene sequence of SEQ ID NO: 1.

2. The use of claim 1, wherein the composition further comprises a first excipient comprising a cryoprotectant.

3. The use of claim 2, wherein the composition further comprises a second excipient.

4. The use of any one of the preceding claims, wherein the composition is frozen or lyophilized.

5. The use of any one of claims 2-4, wherein the cryoprotectant results in a greater percent recovery of the probiotic after freezing or lyophilization as compared to a composition comprising the same probiotic without the cryoprotectant.

6. The use of any one of claims 2-5, wherein the cryoprotectant results in greater efficacy, stability, and/or viability of the composition against a pathogenic organism as compared to a composition comprising the same probiotic without the cryoprotectant.

7. The use of claim 6, wherein the percent recovery in the composition with a cryoprotectant is between one to three logs greater after 20 days, as compared to the composition without the cryoprotectant.

8. The use of any one of claims 2-7, wherein the cryoprotectant comprises a disaccharide.

9. The use of claim 8, wherein the disaccharide comprises trehalose.

10. The use of claim 9, wherein the trehalose comprises D-trehalose at 2-20%.

11. The use of any of the preceding claims, wherein the nucleic acid sequence is at least 99% identical to the 16s rRNA gene sequence of SEQ ID NO: 1.

12. The use of any one of the preceding claims, wherein the composition further comprises at least one additional isolated or synthetic microbe, wherein the additional isolated or synthetic microbe comprises a human-isolated or synthetic probiotic selected from *Alcaligenes faecalis, Bacillus altitudinis, Bacillus pumilus, Bacillus subtilis,* or *Janthinobacterium lividum.*

13. The use of any one of the preceding claims, wherein the composition further comprises at least one additional isolated or synthetic microbe, wherein the additional isolated or synthetic microbe comprises one or more members of a genera selected from *Lactobacillus, Lactococcus, Cutibacterium,* or *Propionibacterium.*

14. The use any one of the preceding claims, wherein the composition further comprises a first additional isolated microbe and a second additional isolated microbe, wherein the first and second additional isolated microbes are independently selected from bacteria, virus, yeast, fungus, or any combination thereof.

15. The use of any one of the preceding claims, wherein the skin condition is associated with Malassezia, a dermatophyte, gram positive bacteria and *Staphylococcus*, *Candida*, or *Trichophyton*.

16. The use of any one of the preceding claims, wherein the composition further comprises an anti-fungal compound or anti-bacterial compound.

17. The use of claim 16, wherein the anti-fungal or anti-bacterial compound is present in the composition in a therapeutic or sub-therapeutic amount.

18. The use of any of the preceding claims, wherein the composition further comprises a topically acceptable carrier comprising a prebiotic, metabolite, postbiotic, cell lysate, probiotic or any combination thereof.

19. The use of any one of claims 1-18, wherein the medicament is formulated as a cream, gel, foam, ointment, powder, lotion, liquid, tincture, spray, mister, or inhaler.

20. The use of any one of claims 1-18, wherein the medicament is formulated for topical administration to human skin or human mucosa.