



# **Gut microbiota mediates the immunomodulator effect of dietary cocoa: Impact of Polenoderm**

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**Cocoa and its products are rich sources of polyphenols such as flavanols.**

**However, cocoa polyphenols are poorly absorbed in the intestine, and most of them cannot reach the systemic circulation in their natural forms.**

**In fact, once reaching the intestine, cocoa polyphenols interact bidirectionally with the gut microbiota.**



**Acne also has close connections with the gastrointestinal tract, and many argue that the gut microbiota could be involved in the pathogenic process of acne.**

**The purpose of this study was to compare the diversity of the skin microbiota in acne patients before and after taking Polenoderm which contains cocoa.**

**Based on this observation, the effect of cocoa on the gut microbiota will be discussed in acne.**



**However, current knowledge of the cacao root-associated microbiome is limited.**

**This review aims to summarize the available knowledge of the bidirectional interaction between cocoa polyphenols and gut microbiota in acne.**

**This study concentrates on the skin and gut microbes in acne, the role that the gut-brain-skin axis plays in the immunobiology of acne, and newly emerging microbiome-based therapies that can be applied to treat acne.**



**Cocoa can modulate the composition of the gut microbiota exerting prebiotic mechanisms.**

**Bioactive cocoa metabolites can enhance gut health, displaying anti-inflammatory activities, positively affecting immunity.**

**Our study provides insight into the skin microbiota in acne and how it is modulated by Polenoderm and diet.**



**With the help of Deniplant brand natural remedies, Gheorghe Giurgiu has developed several products for acne that act as immunomodulators of the human microbiome.**

**Hence, it is crucial to understand Polenoderm impact on the acne skin microbiota which is thought to be perturbed, our study provides insight into the skin microbiota in acne and how it is modulated by Polenoderm and diet.**

**With the understanding that the brain-gut-skin axis exists, it is now clear that intestinal microbes have significant effects on acne.**



**Polenoderm is a nutraceutical (food with a dual role of nutrition and health), used as a natural modulator of the skin microbiota.**

**Polenoderm contains freeze-dried pollen from Deniplant plants, brewer's yeast, powdered seeds: locust beans, cocoa, coffee.**

**Due to its composition rich in amino acids, minerals and natural vitamins, the Polenoderm product offers various possibilities to balance the processes that take place in the skin cells and lymphatic vessels following an infection, triggering the body's self-healing processes.**



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## Polenoderm-treated acne patient





## Conclusion

**Acne also has close connections with the gastrointestinal tract, and many argue that the gut microbiota could be involved in the pathogenic process of acne.**

**The gut microbiota's ability to influence systemic inflammation could have an important role in acne.**

**Acne also has close connections with the gastrointestinal tract, and many argue that the gut microbiota could be involved in the pathogenic process of acne.**

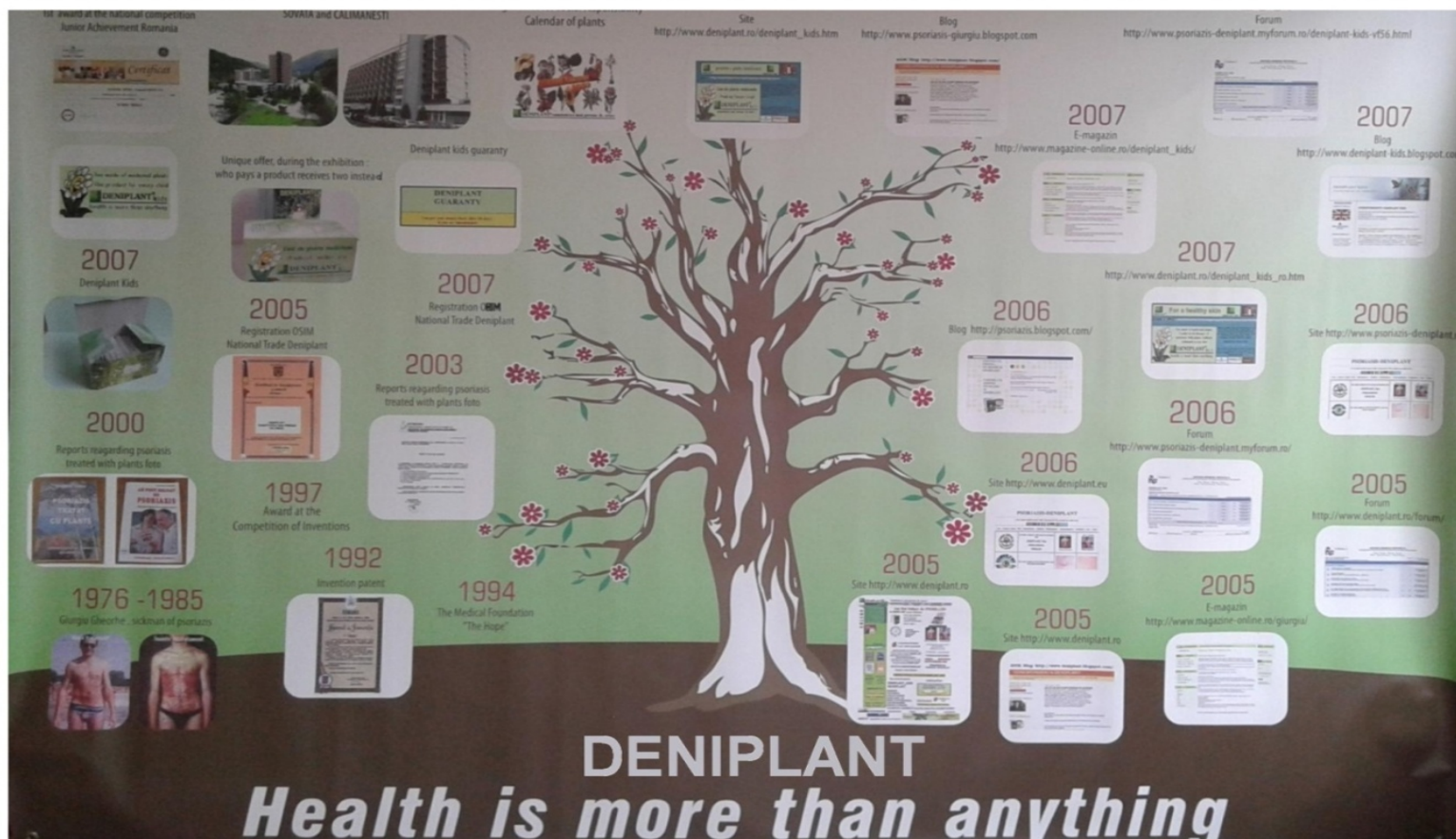
**We've seen through research that the gut, brain and skin are very much connected and the state of one can influence the state of the others, but it can look different in every individual.**

**Probiotics can have a profound impact on immune reactions because of the microbiota's heavy influence on the immune system (this includes skin inflammations like acne).**



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