

**Cím:** The role of the skin's commensal microflora in health and disease  
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**További szerzők:** x  
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One of the most important features of the human skin is the formation of a complex barrier. For a long time it was believed that this is a passive function originating from the unique structural features and anatomical properties of this organ (mechanical barrier). However, in the last decades it became increasingly accepted that the different types of skin cells -among them the keratinocytes and sebocytes- possess important functions in generating a coordinated, active protection, thus forming a true first line of defense against the harmful impacts of the external environment. These cells have been shown to act as sentinels capable of the recognition of external pathogens through the expression and function of all sorts of pathogen recognition receptors (PRRs). Activation of these receptors by various pathogenic microbes leads to the initiation of active defense processes, and as a result, inflammatory and innate immune events are launched (immunological barrier). Last, but not least keratinocytes, as well as sebocytes, also actively secrete different factors exhibiting antimicrobial properties (including the small cationic molecules, called defensins) altogether contributing to the formation of another level of protection (chemical barrier).

The different surface areas of the human body that are constantly exposed to the effects of the external environment (skin, gastrointestinal tract, parts of the reproductive system) are heavily colonized by various microbes, altogether making up the so-called commensal flora. The exact composition and function of these at the above listed diverse anatomical locations are currently being investigated. Traditionally it was suggested, that these microbes have a relatively passive function, as they populate these niches and use up the available food sources. Currently, however, there is a paradigm shift in this research field, as more and more beneficial effects of these microbes are being identified.

One of the most important members of the skin's commensal flora is the bacterium called *Propionibacterium acnes* (*P. acnes*). Even though it resides in the pilosebaceous unit of the skin, under certain circumstances it may also play an important role in the pathogenesis of the most common inflammatory skin disease, acne vulgaris. How and when this commensal microbe turns pathogenic is currently not known, but heavily investigated by us and other laboratories.

In this current talk I will summarize what is known about the function of the skin's commensal microflora, how we analyze the complex interaction that lay within our skin cells and the *P. acnes* bacterium, and how this bacterium contributes to the pathogenesis of acne vulgaris.