Role of the classical and non-classical (endo)cannabinoid signaling in the (patho)physiology of the human sebaceous glands (Bíró-lab)

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Acne ("zit") is one of the most prevalent human skin diseases, affecting almost everyone during his/her lifetime. Although it is not a directly life-threatening disease, its severe forms (especially the ones localized to the face) put a significant burden to the patients, which may result in serious secondary psychological disorders (anxiety, depression or in the worst case, even suicidal thoughts).

Exact pathogenesis of acne is not fully unveiled yet, and during its clinical management one may face a number of challenges. Thus, it is easy to understand that development of efficient, novel tools, ideally targeting multiple aspects of the pathogenesis of the disease, while exerting a more "favorable" side-effect profile compared to the available competitors, and keeping the homeostatic sebaceous functions intact, is in the focus of the mainstream research investigating acne and sebaceous glands (patho)physiology.

We have previously shown that sebocytes are both producers and targets of the so-called "endocannabinoids", which (most probably via auto- and paracrine regulation) play an important role in the maintenance of the basal sebaceous lipid production, suggesting a putative role for endocannabinoid dysregulation in the pathogenesis of acne. Moreover, our *in vitro* and *ex vivo* experiments revealed multifaceted anti-acne efficiency of multiple plant-derived, non-psychotropic phytocannabinoids (e.g. cannabidiol, CBD).