Psühhiaatriliste häirete riskigeeni Negr1 seos endokannabinoidsüsteemiga

Psühhiaatrilised häired on olulisim piiratud töövõime põhjus ning ühtlasi üks kulukaimaid haiguste gruppe. Psüühikahäirete neurobioloogilised põhjused on siiani suuresti teadmata. Närvirakkude kasvu reguleeriv adhesioonimolekul NEGR1 on üks valkudest, millel on väga tugevad geneetilised seosed mitmete psüühikahäirete, eriti meeleoluhäiretega. NEGR1 kaudu toimivaid ravimeid praegu silmapiiril ei ole. Endokannabinoidsüsteem (ECS) ja NEGR1 mõjutavad samu ajuprotsesse ja samade psüühikahäirete avaldumist. Seda, kuidas NEGR1 ja ECS üksteist mõjutavad, pole siiani uuritud, küll on aga teada, et endokannabinoidi 2-AG tasemed on Negr1-puudulikkusega hiirel oluliselt vähenenud. Projektis selgitame, kas ja kuidas endokannabinoidid reguleerivad NEGR1 mõju. Uuring aitab luua eeldusi leevendamaks psüühikahäireid NEGR1 ja ECSi mõjutavate ravimite või elustiilisekkumiste kaudu.

Endocannabinoid system as a possible modulator of psychiatric effects of the adhesion molecule Negr1

Psychiatric disorders are one of the main causes of disability and a major socioeconomic burden. Neurobiological bases for these disorders are largely unknown. Neuronal growth regulator 1 (NEGR1) is a neural cell adhesion protein that shows strong genetic links with various psychiatric disorders and especially with mood disorders. There are currently no drugs on the horizon to target NEGR1, however. Endocannabinoid system (ECS) regulates similar psychiatric disorders and physiological processes in the brain as NEGR1 does. Interestingly, the endocannabinoid (eCB) 2-arachidonoylglycerol (2-AG) is also reduced in the plasma of Negr1 KO mice. Whether NEGR1 and ECS interact or modulate each other is unknown until now. The current project aims to elucidate if the changes in the eCB tone could modulate the effects of NEGR1. The findings of this study pave the way to treating psychiatric pathology with drugs or lifestyle interventions that modulate the ECS and NEGR1.

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