



Hindawi

Neural Plasticity

Special Issue on

Cannabinoids in the Brain: New Vistas on an Old Dilemma

CALL FOR PAPERS

The use of cannabis as a therapeutic and recreational substance goes back to thousands of years throughout Asia, Middle East, Southern Africa, and South America. The discovery of Δ^9 -THC by Mechoulam and Gaoni in the mid-sixties as the major psychoactive constituent of *Cannabis sativa* led to another important discovery, namely, its specific binding site that was isolated and cloned in 1990 (Matsuda et al., 1990). This binding site was coined CB1R and triggered a number of investigations on its expression, localization, and function within the body tissue, including the brain in various species. This was followed by the discovery in 1992 of the first endocannabinoid, anandamide (Devane et al., 1992), followed by another cannabinoid receptor CB2R and a second endocannabinoid called 2-arachidonoylglycerol (2-AG). Later, the enzymes responsible for their synthesis and degradation (FAAH and NAPE) were identified.

However, the recreational use and side effects of cannabinoids have been subjected to numerous studies throughout history, but the investigation of the endocannabinoid system and its potential therapeutic use is rather new, and a lot of attention has been devoted not only to its specific expression in the brain but also to its functions. These studies have recently received substantial attention from pharmaceutical companies as a potential source of novel treatment. Additionally, the dilemma of legalizing the use of cannabis in some countries makes the investigation on cannabinoid systems more momentous. This special issue is therefore timely and will bring historical and groundbreaking novel research on the role of these cannabinoid receptors in the mammalian brain with an emphasis on the ensuing clinical implications.

In line with the known effects of *Cannabis sativa*, papers dealing with the various effects of cannabinoid receptors on sensory, motor, and cognitive functions will be welcome.

Potential topics include, but are not limited to:

- ▶ Evolution and the endocannabinoid system
- ▶ The retinal endocannabinoid system: an overview
- ▶ Expression of CB2 in the central nervous system
- ▶ Pharmacology of CB1 and CB2 receptors
- ▶ The endocannabinoid system and axon guidance
- ▶ Plasticity of the endocannabinoid system in the mouse
- ▶ Role of the cannabinoid receptors in the primate retinal function
- ▶ Expression of cannabinoid receptors in the retinogeniculostriate pathway
- ▶ Cannabis and binocular depth perception
- ▶ Age related changes of anandamide metabolism
- ▶ Cannabis and memory
- ▶ GPR55: an atypical cannabinoid receptor
- ▶ Cannabinoids as therapeutics agents
- ▶ Cannabis in the treatment of glaucoma
- ▶ Cannabinoid in brain cancers
- ▶ Mental illness and cannabis
- ▶ Interaction between cannabis and ethanol in fetal development
- ▶ Alternative interacting sites and novel cannabinoid receptors
- ▶ Cannabinoids on Parkinson disease and related neurodegenerative disorders
- ▶ Treatment of childhood seizures with cannabinoids
- ▶ Legal issues with medicinal use of CBs

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/np/cb/>.

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