

Abstract

Novel psychoactive substances (NPS) are a novel problem of the drug scene. NPS mimic effects of the „classic“ illicit drugs, but since they have a different chemical structure, they are usually not covered by legislative control. The exact nature of the aforementioned effects depends merely on the description by users, with a proper scientific assessment still absent. Aim of this study is to evaluate effects and addictive potential of naphyrone (a derivative of cathinone) in Wistar rats. High concentration of naphyrone in the brain tissue discovered by pharmacokinetic analysis proved its high blood-brain barrier permeability. Brain level of naphyrone peaked at approximately 30 min after the treatment, nearly at the same time as in the serum. Since naphyrone administration significantly rises body temperature and increases overall locomotion, its stimulant effect is prominently apparent. Our study failed to prove any effect of naphyrone on sensorimotor gating. Tendency to produce conditioned place preference was observed but was not significant. My thesis reports on initial and novel findings about impact of naphyrone administration on physiological parameters of the animal model.