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## NEW POTENTIAL MOLECULAR TARGETS FOR CANNABIS ADDITION

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Cannabis is considerer the most widely abused illicit drug in the world. The recent rising prevalence of cannabis use by young adults and increasing evidence of adverse health effects makes the search for new pharmacotherapy to reduce cannabis abuse extremely important. To date no medication has been approved for the treatment of cannabis addition.

This study reviews recent results with potential interest for future pharmacological treatment of Cannabis dependence. Most of the relevant data obtained for treatment of cannabis dependence target the endocannabinoid or the central cholinergic systems, both involved and interact in brain systems implicated drug reinforcement. In laboratory animals blockade of cannabinoids $CB_1$ receptors reverses central effects of cannabinoids. Rimonabant is a selective, orally active, cannabinoid $CB_1$ receptor antagonist (inverse agonist) that has been shown in animals to modulate cannabinoid signaling in brain reward circuit. In humans, it has been shown that rimonabant, single or repeated oral doses blocked psychological and physiological effects of smoked marijuana (1). Although psychiatric adverse side affects like depression were reported with rimonabant, this compound was already been approved for treatment of obesity and metabolic syndrome. Very recently, blockade of $\alpha_7$ nicotinic receptors was shown to reverse abuse-related behavioral and neurochemical effects of cannabinoids in rats (2).

In conclusion, besides cannabinoid $CB_1$ receptor, the homomeric $\alpha_7$ nicotinic receptors are novel molecular targets in the development of new drugs for treatment of cannabis addition.

1. Solinas M,. et al. (2007). *J Neurosci*. 27(21):5615-20.
2. Huestis MA, et al. (2007). *Psychopharmacol.* 194(4):505-15.

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