

A systematic study on phytocannabinoids for hypercholesterolemia: a lesson in foodinformatics

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Cannabis sativa L. is an entheogenic herb grown for industrial fibre, oil seed, hashish and marijuan. More than 483 phytochemicals have been reported in variuos preparations of this herb, however phytocannabinoids (PCs) are known as main bioactive compenents of its both drug-type (marijauna or marihuana) and non-drug type (hemp) varietis (Brenneisen, 2007). The PCs exert their biological activities throughout binding with cannabinoid and non-cannabinoid receptors.

Both hypercholesterolemic (Singla et al., 2012) and antihypercholesterolemic (Karimi and Hayatghaibi, 2006) effects of various preparations of *Cannabis sativa* L. have been reported, however little is known about the molecular basis of these controversial events. Here we will discuss binding affinities of PCs with wide array of important targets (e.g., 3-hydroxy-3-methyl-glutaryl-coenzyme A reductase) involving in metabolism of cholesterol. To reach this goal, this chapter will be divided into following sections:

1. A systematic review on the *Cannabis sativa* L. and PCs and cholesterol metabolism
2. Foodinformatic survey of PCs against cardinal target proteins involved in cholesterol metabolism
3. Results and discussion
4. Conclusions and remarks

Keywords *Cannabis sativa* L.; Cannabinoids; Cholesterol; Molecular docking; Functional food

References

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