



Universiteit
Leiden
The Netherlands

Polyketide synthases in *Cannabis sativa* L

Flores-Sanchez, I.J.

Citation

Flores-Sanchez, I. J. (2008, October 29). *Polyketide synthases in Cannabis sativa L*. Retrieved from <https://hdl.handle.net/1887/13206>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/13206>

Note: To cite this publication please use the final published version (if applicable).

Stellingen / Propositions

Behorende bij het proefschrift / Accompanying the PhD thesis

Polyketide synthases in *Cannabis sativa* L.

1. In Cannabis, three distinctive polyketide pathways are working independently in the biosynthesis of cannabinoids, flavonoids and stilbenoids.
This thesis
2. A lack of knowledge on the reaction mechanism of the putative olivetolic acid-forming PKS is a major constraint in the comprehension of the biosynthesis of this alkyl-resorcinolic acid.
This thesis
3. Plant cell cultures are not a useful model system for studying biosynthesis of secondary metabolites toxic to the cells.
This thesis
4. Cannabinoid biosynthesis requires a high level of differentiation only occurring in glandular trichomes.
This thesis
5. Comprehensive metabolic profiling can only be achieved by combining non-specific targeted methods with more specific targeted methods.
Hagel and Fachini (2008) Phytochem Rev Doi 10.1007/s11101-007-9086-9
6. Considering all the possible interactions of a plant with its environment, our understanding of the role of secondary metabolism is still rudimentary

Stellingen / Propositions

Behorende bij het proefschrift / Accompanying the PhD thesis

Polyketide synthases in *Cannabis sativa* L.

1. In Cannabis, three distinctive polyketide pathways are working independently in the biosynthesis of cannabinoids, flavonoids and stilbenoids.
This thesis
2. A lack of knowledge on the reaction mechanism of the putative olivetolic acid-forming PKS is a major constraint in the comprehension of the biosynthesis of this alkyl-resorcinolic acid.
This thesis
3. Plant cell cultures are not a useful model system for studying biosynthesis of secondary metabolites toxic to the cells.
This thesis
4. Cannabinoid biosynthesis requires a high level of differentiation only occurring in glandular trichomes.
This thesis
5. Comprehensive metabolic profiling can only be achieved by combining non-specific targeted methods with more specific targeted methods.
Hagel and Fachini (2008) Phytochem Rev Doi 10.1007/s11101-007-9086-9
6. Considering all the possible interactions of a plant with its environment, our understanding of the role of secondary metabolism is still rudimentary

7. Combinatorial biochemistry by over-expression of microbial PKSs in plants will create novel chemodiversity
8. The fact that PKSs occurs in plants as enzymes encoded by families of genes makes metabolic engineering of the biosynthesis of polyketides quite complicated.
9. If you do not have the time to read, you do neither have the time nor the tools to write.
10. Mexico and The Netherlands are multicultural societies which are guided by tolerance.
11. Dutch society lives in harmony with nature, which is a model to follow.
12. If Dutch people say “we made Holland”, the Aztecs could declare that they made Tenochtitlan (Mexico City).

Leiden, 29 October 2008
I.J. Flores-Sanchez

7. Combinatorial biochemistry by over-expression of microbial PKSs in plants will create novel chemodiversity
8. The fact that PKSs occurs in plants as enzymes encoded by families of genes makes metabolic engineering of the biosynthesis of polyketides quite complicated.
9. If you do not have the time to read, you do neither have the time nor the tools to write.
10. Mexico and The Netherlands are multicultural societies which are guided by tolerance.
11. Dutch society lives in harmony with nature, which is a model to follow.
12. If Dutch people say “we made Holland”, the Aztecs could declare that they made Tenochtitlan (Mexico City).

Leiden, 29 October 2008
I.J. Flores-Sanchez