

Licensing Opportunity (BioT-0566-SUG) 9/13 Divinylethersynthase Enzymatic method of producing Hydroxy Fatty Acids

Scientists at the University of Göttingen isolated and developed a new Hydratase Enzyme for the strategic production of Aldehyds, Alcohols and Esters from Fatty Acids

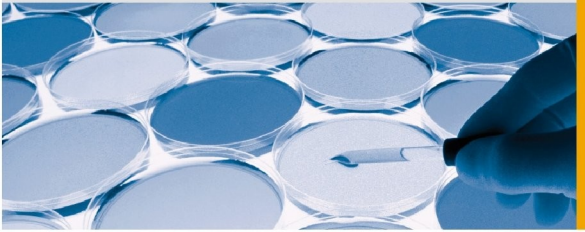
Hallmarks

Ref: **DE 102004036466**, granted.

- Method of producing C6- and/or C9- Aldehydes, Alcohols and Esters based on a recombinant 9/13 divinylethersynthase (9/13 DES) to react with fatty acids hydroperoxides.
- Particularly stable production of 2E-isomers.
- Based on isolated 9/13 DES from garlic.
- Use of a 9/13 Hydroxyperoxid-lyase is not required.
- Production of high value chemicals e.g. for the fragrance, flavour, food, pharma and chemical industry.
- Method to produce plants with increased resistance against pathogens through a transgene expression of the 9/13 divinylethersynthase.
- Method to increase resistance against pathogens in plants by applying divinylethers which have been produced in vitro with the 9/13 divinylethersynthase.

Uses

- ➔ Useful for the production in large scale.
- ➔ Expression of fatty acid 9/13 DES in transgenic bacteria, yeast, cell or plant possible.
- ➔ Production of high value chemicals e.g. for the fragrance, flavour, food, pharma industries.
- ➔ Production of high value intermediate chemicals e.g. for lubricants, surfactants, detergents, coatings, paints, biopolymers and/or plasticizers.



Assays performed:

- Cloning of 9/13 DES from garlic.
- Expression of recombinant 9/13 DES in E. coli.
- Activity tests of the rec 9/13 DES.
- Analysis of produced divinylethers by RP-HPLC and GC-MS.
- Production of C6-aldehydes.
- Establishment of optimum pH of the 9/13 DES.
- Analysis of the specificity of the 9/13 DES.
- Agrobacterium tumefaciens based transformation of plants.
- Successful production of 9/13 DES transgenic Arabidopsis plants (as a model for rapeseed).

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We filed a patent application covering this enzyme including its application and are now **looking for companies, which are interested in licensing, developing, using and commercializing our approach.**