Technology Offer

Tobacco Plants Producing Medicinal Cannabinoids - Novel mechanism of producing therapeutic cannabinoids

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A method for the stable production of cannabinoids at high yields with the concomitant absence of psychoactive constituents.

Background

Cannabinoids, such as cannabidiol (CBD), are important secondary metabolites produced mainly on the flowering parts of cannabis plants and are thought to have a multitude of human therapeutic properties. However, cannabis plants cannot produce standardised amounts of cannabinoids as production occurs in a small number of specialised cells impacting the overall yield.

Researchers at University College Dublin and the Max Planck Institute have developed a method and system of producing cannabinoids and cannabinoid derivatives within a stably engineered tobacco plant in the absence of the psychoactive constituents of cannabis.

Applications

Enables the production of high yields of cannabinoids and cannabinoid derivatives in the absence of the psychoactive constituents of cannabis using genetically stable transgenic tobacco plants.

Advantages

- As the tobacco plant is a model plant for cell culture, cells can be produced in bioreactors.
- Tobacco plants are fast growing and produce a high biomass resulting in a high yield of cannabinoids and cannabinoid derivatives.
- Transgenic tobacco plants can produce stable quantities of cannabinoids and cannabinoid derivatives.
- Cannabinoids and cannabinoid derivatives can be produced in the absence of the psychoactive constituents of cannabis.

Patent Information

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