

SIMULTANEOUS MULTI-PROTEIN PRODUCTION IN PLANTS

DISCLOSURE OF INVENTION

CSIC researchers have developed a consistently and reproducibly method for the production of complex recombinant proteins repertoires, by generating multi-transgenic plants leading to somatic mosaics. Applications presents in this invention are mainly focused on the production of antibodies for the generation of vaccines, treatment of immunodeficiency or antivenoms. Currently there is no method for production of several recombinant proteins at once in an organism. This technology will reduce the costs of production for such products, by simplifying the steps to get them.

INDUSTRIAL APPLICATION SECTORS

The invention is applicable in the biomedical and pharmaceutical industry. More specifically it can be applied to:

- Production of polyclonal antibodies for diagnosis.
- Production of IVIG for the treatment of autoimmune or immunodeficiency, or for passive immunization therapies diseases.
- Production of antivenoms and antidotes.
- Production of complex protein repertoires (eg. Allelic variants).
- Production of proteins for diagnostic, therapeutic or industrial use.

TECHNICAL ADVANTAGES AND BUSINESS PROFITS

Currently, this technology is the only available method which can be used to produced protein repertoires (stable and reproducible). Until now, the only alternative was to use cell cultures, in which each protein was synthesized individually and subsequently their purification were mixed to obtain a protein repertoire.

Thus, this new technology enables the process once, purifying the protein complex together in one step. In addition, by using plants for support, allows reducing costs and production time, can benefit better business performance

DEVELOPMENT STATUS OF TECHNOLOGY

The above-described technology is developed experimentally. That several studies support the reliability and reproducibility of the method to produce protein repertoires. For each case there should be a specific project setup.

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INDUSTRIAL PROPERTY RIGHTS

The technology for the production of protein repertoires is protected by patent. This patent is co-owned CSIC-UPV.

TYPES OF COLLABORATION

The technology can be licensed to a company interested in producing protein repertoires for diagnostic, therapeutic or commercial use. Potential stakeholders belong to the pharmaceutical or biomedical industry sector. In turn, it can also perform an R & D project focused on improving the technology.

RELATED IMAGES

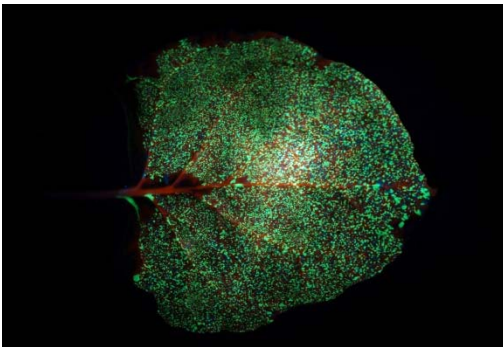


Image 1: Expression of recombinant proteins in plants



Image 2: Use of plants for the expression of proteins

CONTACT

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