INNOVATIVE METHOD FOR INCREASING PHYTOSTEROLS PRODUCTION AND EXTRACTION

TECNOLOGÍA PATENTADA

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RESUMEN

The research group "Plants proteomics and functional genomics" at University of Alicante has developed a novelty procedure for increasing phytosterols production and extraction in in vitro plant cell cultures. To this end, cyclodextrins and, optionally, methyljasmonate are added to the culture medium. After the incubation process under controlled conditions, vegetal sterols are obtained with higher yields than that of the currently extraction methodologies from vegetal row material.

This method allows a stable phytosterols production, irrespective of geographic, seasonal and environmental factors, with reduced space requirements and simpler purification and scaling-up processes.

The research group is looking for companies interested in acquiring this technology for its commercial exploitation.

VENTAJAS Y ASPECTOS INNOVADORES

- The in vitro plant cell cultures neither depend on geographic, nor seasonal or environmental factors.
- Stable system of production.
- Reduced space requirements.
- Easy purification process.
- A non-expensive phytosterols production could be easily accomplished at great scale in bioreactors.
- Other products that are not naturally synthesised in the plant could be obtained.
- There are other factors, such as the elicitation of the cell culture, that allow an enhancement of the productivity.

Currently, the classic methodology for extracting phytosterols from vegetal row material has a low yield. In addition to this fact, the elevated amounts of plants needed for obtaining a significant quantity of phytosterols leads to a higher cost for these products.

Thanks to the process described above, it is possible to increase the phytosterols production and extraction yields from natural resources. Then, a greater percentage of population can benefit of the positive effects of the phytosterols on health.

APLICACIONES DE LA OFERTA

Due to the beneficial properties previously mentioned, phytosterols are widely employed in different sectors:

- As food additive: Its consumption is closely related to a decreased risk of coronary heart diseases. For this reason, they are present in margarine, butter, milk, yoghurt, ice-creams, cereals, sausages, sauces, etc.

- In medicine.
- In pharmacy.
- In biotechnology.
- In cosmetics.
- Others

COLABORACIÓN BUSCADA

The research Group is looking for companies interested in acquiring this technology for its commercial exploitation through the different existing ways of technology transfer (patent licence agreement, etc).