

## Factsheet

**Acronym** DISCO

**Full title** From DISCOvery to products: A next generation pipeline for the sustainable generation of high-value plant products

**Programme** Collaborative Project targeted to a special group (such as SMEs)

**Contract number** 613513

**Abstract** Plant natural products have been utilised by human civilisation for millennia, providing vital medicines and essential dietary components. More recently bioactive compounds from plant sources have been used in cosmetics, as health supplements and are important components of feedstuffs. Despite significant investments new activities and new sustainable biosources are required to alleviate our reliance on chemical synthesis. In the DISCO project we aim to address these issues and create a framework that can act as a generic pipeline capable of taking discovery through application and validation, to translation and industrial valorisation. Key aspects of the project will be concerned with (i) translating discovery into industrial feasibility and/or commercialisation, (ii) transfer our knowledge gained optimising isoprenoid/terpenoid production to other important terpenoids and different classes of natural products, (iii) maintaining and incorporating the very latest technologies into both the discovery and translational pipelines and (iv) develop “green factories” with integrated biorefining pipelines to reduce or eliminate chemical refining and thus environmental impact. The bioactive molecules and their biochemical pathways targeted include, carotenoids (including apo-carotenoids), terpenoids and tropane alkaloid. For example; ketocarotenoids which are used as colorants in feedstuffs especially aquaculture; colourless carotenes such as phytoene and phytofluene, which are important bioactive ingredients of cosmetics; apo-carotenoids from saffron which are colorants and potent bioactives; the terpenoid solanesol which is used in the production of Coenzyme Q10 and the alkaloid scopolamine which is used as analgesic. The project will have real-life impacts reducing environmental impact, provide new material to benefit human activities and stimulate economic development.

**Duration** 48 months (01/11/2013 – 31/10/2017)

**Project funding** 6,485,847 €

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**Website** [www.disco-fp7.eu](http://www.disco-fp7.eu)