



Yeast-based Ginsenoside-production

Ginseng is among the most famous health-promoting plants in the world. But did you know that ginseng has a very high cost of production, leading to the price of ginsenosides i.e. the active compounds being almost 1,000x higher than gold with approx. EUR 25,000-50,000 per g? acib is going to change that by developing an industrial yeast for ginsenoside production and is looking for interested companies!

BACKGROUND

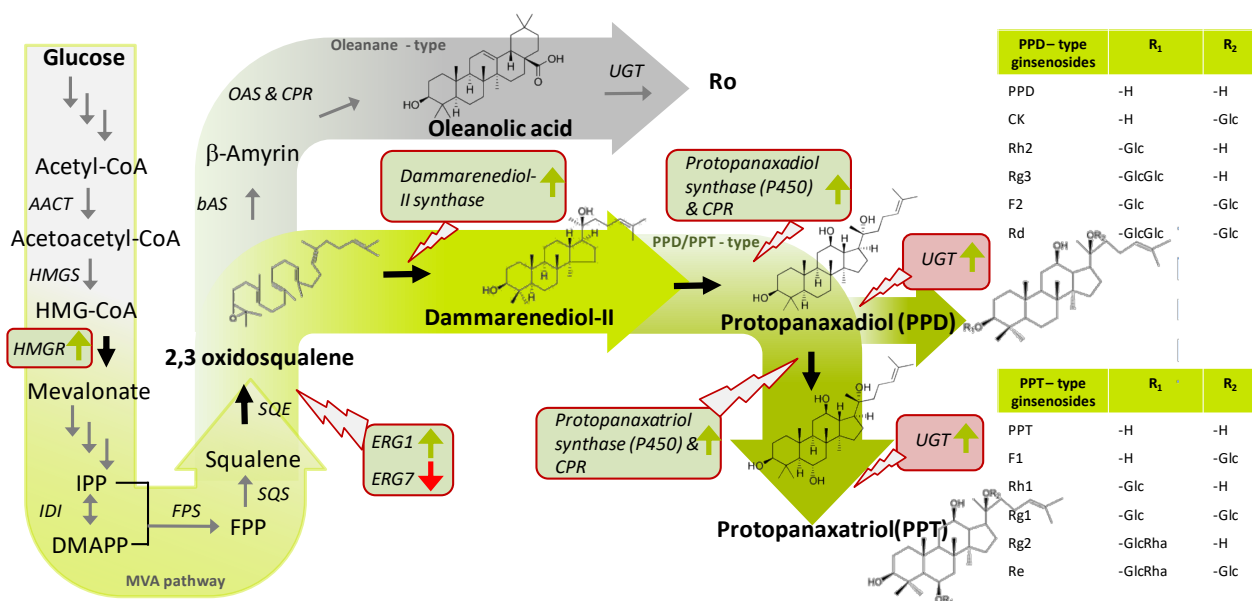
Ginsenosides (also called panaxosides) are the well-known natural products from Ginseng (*Panax*) plants, which have longstanding use in traditional medicine exhibiting a variety of pharmacological effects. The content and yield of ginsenosides vary drastically not only between different species such as the Asian ginseng (*Panax ginseng*), the Japanese ginseng (*Panax japonicus*) and the American ginseng (*Panax quinquefolius*), but also between individual plants. This, in combination with the dependence on suitable growth conditions and land consumption, creates the need for an alternative, reliable, easy-to-access, environmentally-friendly and economic source of ginsenosides.

TECHNOLOGY

acib has initiated metabolic engineering of the industrial yeast *Komagataella phaffii* (aka *Pichia pastoris*) for the production of highly-valued ginsenosides, providing an inexpensive and environmentally benign way superior to extraction from ginseng roots. Yeast strains with modifications in precursor supply and integrated pathways for ginsenoside-aglycon synthesis are available. Suitable analytical methods for detection of ginsenoside aglycons have been established. acib has all the expertise in glycosylation technology required and applicable for the production of natural and new-to-nature ginsenosides. We are ready to partner with companies to develop this technology further for them.

OFFER

acib offers to develop Ginsenoside-producing yeast strains, including upscaling of (lab-scale) bioreactor-production for you. IP developed in such projects can be fully transferred to you as our investor/industrial partner.





acib-EXPERTS:

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DEVELOPMENT STATUS:

TRL 2 (Technology concept formulated)

IPR:

Ginsenoside-producing yeasts can be generated and transferred to you as our project partner

KEYWORDS:

Herbal medicine
Natural
Health
Ginseng
Ginsenoside
Yeast

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