



Healthy and tasty ingredients

Anti-oxidants, vitamins, flavour and fragrances can be produced and enhanced naturally using single enzymes or microbial cell factories, developed by acib. Let's find out how!

BACKGROUND

Biotechnology has been used for thousands of years to create delicious and popular active compounds such as found in wine, beer, bread or sauerkraut. The latter is an important source of Vitamin C and was used in the prevention of scurvy. Unfortunately, Vitamin C is easily degraded through high temperature, molecular oxygen or UV-radiation. Luckily, acib was able to change that and much more by its biotechnological breakthroughs ...

TECHNOLOGY

Through enzymatic glycosylation acib has transformed Vitamin C into the highly stable L-Ascorbic Acid 2-Glucoside. The added glycosyl-group protects Vit-C in cosmetics or food until it is finally removed by a natural human enzyme. However, the addition of a natural glycosyl-group can not only stabilize compounds, but also increase water solubility. In case of resveratrol, the solubility (and thus bioavailability) was increased 1700-fold. By the introduction of functional groups to antioxidants such as resveratrol it is also possible to increase the antioxidant capacity several fold.

acib has also developed biocatalytic processes for the production of vitamins (e.g. natural Vitamin E) and antioxidants such as 3-Hydroxytyrosol from olive oil or nothofagin from Rooibos tea. Using similar enzymatic processes acib can also produce several important flavour & fragrance compounds e.g. Piperonal/Heliotropin, Lilial or (iso)borneol. For some other flavour/fragrance compounds acib has developed a whole-cell biotransformation using microbial cell factories to produce from simple sugars fragrant and tasty compounds such as the terpenoids nootkatone from grapefruits or ambrein from sperm whales.

OFFER

Under protection of a CDA/NDA we provide you with professional strategies for the compound/application of your choice. Any IP developed in such a project would fully belong to our investor/industrial partner.

EXPERTS

Prof. Dr. Bernd Nidetzky
Prof. Dr. Robert Kourist
Prof. Dr. Harald Pichler
Dr. Margit Winkler

AVAILABLE FOR

- Investments
- Joint Research Projects
- Contract Research

DEVELOPMENT STATUS

Technology Readiness Level 3-5
(Technology validated in lab)

IPR

Will be generated for our
industrial partner / investor

KEYWORDS

- Biotechnology
- Biocatalysis
- Whole-Cell Biotransformation Food
- Vitamins
- Anti-oxidants
- Flavor & Fragrance

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