



Pheromones

Currently there is a wide range of more or less toxic chemicals for pest management in agriculture. However, more and more pesticides are being banned due to their side-effects, leaving farmers increasingly vulnerable to various pests. Pheromones could be a natural way of protecting crops, but production is difficult because of their often-complex structure. acib offers solutions...

BACKGROUND

Pheromones are crucial signal molecules for insects. Depending on their type they can attract certain insects or drive them away. Some can signal to not laying eggs here, others are used to establish trails or to warn of the use of other paths. They can be combined e.g. repelling pheromones on crops and attracting pheromones on traps around the fields. Since insects often transmit plant diseases repelling them before transmission is even better than killing them through poison-laced plants afterwards. However, also both solutions can be effectively combined e.g. a chemical pesticide combined with an alarm pheromone, increasing insect movement and the probability of them encountering the toxic droplets sprayed onto the field.

TECHNOLOGY

acib has extensive experience in biosynthesis and conversion of volatiles and has developed biocatalysts and whole cell biotransformations for the production of complex pheromones from aldehydes over terpenoids to numerous other compounds. We can provide you with customized, cost-effective and efficient routes for manufacturing. Our services include literature studies and concept development, discovery and selection of appropriate biocatalysts, pathway development and engineering, establishing reliable analytics and downstream processing for product purification, optimization and up-scaling, as well as support for industrial implementation at your site! In addition to insect pheromones, we can also provide you with solutions for other species' pheromones from nematodes over fish to mammals.

OFFER

Under protection of a CDA/NDA we provide you with professional strategies for bio-based pheromone production of your choice. Any IP developed in such a project would fully belong to our investor/industrial partner.

EXPERTS

Prof. Dr. Harald Pichler
Dr. Margit Winkler
Dr. Tamara Wriessnegger

AVAILABLE FOR

- Investments
- Joint Research Projects
- Contract Research

DEVELOPMENT STATUS

Technology Readiness Level 2-4
(Technology validated in lab)

IP R

Will be generated for our
industrial partner / investor

KEYWORDS

- Biotechnology
- Biocatalysis
- Whole-Cell Biotransformation
- Pheromones
- Terpenoids
- Aldehydes
- Biological Pest Control
- Natural Crop Protection
- Sustainable Agriculture

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