

Microbial cell factories for the production of specialised plant metabolites

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Specialised plant metabolites have valuable bioactive properties for human health care. Traditional production methods are time consuming, create a vast amount of waste and are dependent on uncertain external factors. Micro-organisms as producers of these metabolites are a very promising alternative, as they allow production on an industrial scale with better control on wastage, etc.

The chemical diversity in specialised plant metabolites often comes from a series of chemical processes. The specialised plant metabolite pathway taps into the primary metabolism at specific building blocks to generate scaffolds. After scaffold creation, tailoring enzymes will decorate these scaffolds with various functional moieties, effectively multiplying total potential diversity. A level of hierarchy exists among functionalisations, with oxygenation and glycosylation playing a preeminent role.

Here we show the development of an *E. coli* platform for the production of specialised plant metabolites through metabolic engineering and synthetic biology.

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