innovations from nature

acib

acib Technology Offer

Combinatorial pathway assembly for green chemistry

You want to do "green" synthesis of your favorite compound?
Your "green" synthesis needs fine-tuning?
Commercial expression systems do not offer you enough flexibility to fine-tune?
...
Our synthetic biology tools are innovative and cost-effective alternatives!

Background

The "green" synthesis of compounds using biocatalysts is a promising approach in R&D. While the expression of single proteins is well established, the controlled expression of several enzymes constituting a multi-enzyme cascade or a biosynthesis pathway, however, requires much needed and suitable tools. Commercially available expression systems usually do not provide much flexibility. Restriction cloning quickly fails when it comes to the combinatorial assembly of several genes. This calls for appropriate assembly methods and cloning tools.

acib-Technology

We work with cutting-edge synthetic biology tools for the combinatorial assembly of multi-enzyme cascades and biosynthesis pathways. Our custom modular expression vectors provide maximal flexibility to fine-tune protein expression and product formation - for the straight-forward identification of your best performer.

acib-Offer

In addition to classical restriction cloning, we offer overlap extension PCR, Gibson isothermal assembly and type IIS restriction cloning for the combinatorial assembly of multi-enzyme cascades and the reconstitution of biosynthesis pathways. We use customized expression vectors of modular design. Promoters, terminators, origins of replication and selection markers can be chosen freely and are easily exchanged to tailor the vectors to the needs of our customers. For maximal stability, the enzyme cascades and reconstituted biosynthesis pathways can be integrated into the genome.
Under protection of a CDA we provide you with professional and time-saving strategies to assemble your favorite multi-gene construct.

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