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Aleksander Kruis

Peter Panjan

Tilen Konte

Gregor Kosec

Tadej Markuš

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YARROWIA LIPOLYTICA AS A CHASSIS FOR ISOPRENOID PRODUCTION

Martin Kavšček, Acies Bio Ltd., Slovenia
martin.kavscek@acisbio.com
Peter Panjan, Acies Bio Ltd. , Slovenia
Tadej Markuš, Acies Bio Ltd. , Slovenia
Tilen Konte, Acies Bio Ltd. , Slovenia
Gregor Kosec, Acies Bio Ltd. , Slovenia

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Oleaginous yeasts, especially *Yarrowia lipolytica*, are promising hosts not only for the production of various biotechnologically interesting lipids but also for other industrially interesting molecules, such as isoprenoids (e.g. carotenoids, mono- and di- terpenes). Generation of lipid droplets provides storage for these lipophilic molecules and hence reduces its Cytotoxicit. Combining Acies Bio proprietary strains and genetic parts with modular DNA assembly, mutagenesis and HTP screening capabilities allows us to quickly iterate between the design-test-learn cycle to develop new production strains with the ability to produce high amounts of different isoprenoids.

Downsizing the microbioreactors to picolitre scale allows us a screening of production potential of up to 10 million of single cells per week, a dramatic increase from traditional microbiological approaches with the throughput of several 100 strains per week. This technology allows us a paradigm shift in design of experiments and provides geneticists and microbiologists with an enriched population of pre-screened strains, reassuring greater success rates of finding a significantly improved over-production strain.

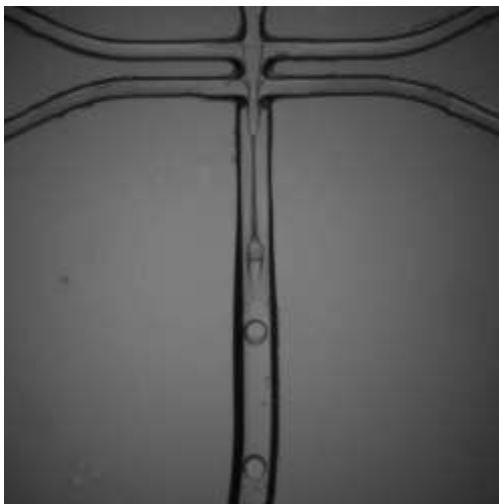


Figure 1 – Encapsulation of microbes producing 400 microbioreactors per second