Droplet-based microfluidics as a future tool for strain improvement in lactic acid bacteria -
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Strain development is frequently used to improve the performance and functionality of industrially important microbes. As traditional mutagenesis screen is especially utilized by the food industry to improve strains used in food fermentation, high-throughput and cost-effective screening tools are important in mutant selection. The emerging droplet-based microfluidics technology miniaturizes the volume for cell cultivation and phenotype interrogation down to the pico-liter scales, which facilitates screening of microbes for improved phenotypical properties tremendously. In this mini-review, we present recent application of the droplet-based microfluidics in microbial strain improvement with a focus on its potential use in the screening of lactic acid bacteria.

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