

Process Development and Scale-up of lactic acid bacteria and yeast species cultivation

Background:

Kefir cultures are a consortium of bacteria and yeast. So far it is very difficult to cultivate a representative consortium in a lab environment under controlled conditions, which makes the provision of Kefir with true health benefits a difficult task.

In our previous work, several bacterial and yeast species were isolated from the natural kefir environment and evaluated for their milk acidification's activity in various mono- and co-cultures. These experiments have been performed in microscale (multiwell plates) and need to be complemented with processing in larger scale.

Project aim:

We aim to analyze the growth and acidification profile of these species, in mono- and co-cultures in 1 L fermenters. During this project, different parameters such as gas mixtures (aerobic and anaerobic conditions), pH and media (milk and laboratory culture media) will be assessed. The fermentation processes will be accompanied by various analytical analysis (HPLC/GC), microscopy, cell enumerating by qPCR and freeze-drying of cultures.

Period: From now on

Qualifications: Good theoretical knowledge of microbial fermentation, practical skills in handling fermenters, good attention to detail and excellent work planning are advantageous.

Contact:

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