Improving quality of life through our premium probiotics

Internship Fermentation Lab (40 hours)

Are you looking for an instructive internship and are you in the third or fourth year of your studies, are you interested in microbiology and bioprocessing? Winclove Probiotics has a challenging assignment within our R&D department in Amsterdam-Noord.

Your internship assignment: Medium optimisation and scale-up for Bifidobacterium

Winclove Probiotics develops and produces high-quality probiotic nutritional supplements in powder form. To develop the most effective probiotics, we continuously invest in research and technology. This includes research into the cultivation and fermentation of relevant bacteria.

What will you do?

For a Bifidobacterium, we would like optimal biomass production. Your task is to use 250mL shake flasks to investigate which carbon and nitrogen sources result in high biomass production of the Bifidobacterium. Based on your results and obtained knowledge of the bacterium, you will ferment the bacterium in 2L lab bioreactors. In doing so, you will discover the influences of pH control, stirring and gas supply on the growth of the Bifidobacterium.

After developing a suitable medium and establishing optimal process parameters at lab scale, an application for scale-up at Winclove's pilot plant follows. Here we have fermenters of up to 400L, a centrifuge and a freeze dryer. Important criteria for the application are reproducibility, interim controls and survival of the bacteria during powder processing. Upon approval, you will lead the process in the pilot plant, collecting data and analysis results.

A more detailed description of the internship assignment can be found below.

What do we ask of you?

- You are an enthusiastic college student in Biology and Medical Laboratory research/Life Sciences/Biotechnology or related education.
- Experience with microbiology.
- Affinity with biotechnology and bioprocessing.
- You speak Dutch and basic English.
- Ability to work on the assignment for a minimum of 5 months.

What do we offer you?

At Winclove Probiotics, we want to make an impact together by improving the quality of life worldwide with our premium probiotics. Our new, sustainable building in Amsterdam-Noord, which was designed especially for us, is at the heart of all our activities. With a state-of-the-art production facility, innovative laboratories and a beautiful office environment, we have all the ingredients for sustainable growth.

Welcome to the family!
As a member of the Winclove family, you will be part of a close-knit group of colleagues driven by optimism, mutual trust and pride. Besides hard work, we find fun and relaxation at Winclove just as important, for example with our extensive communal lunches, (sports) activities and parties.

What makes us extra special? Since 2020, we have been certified as a Great Place To Work, which means you will without a doubt quickly feel at home here. We are also actively involved in social projects in Amsterdam North and very proud of our B Corp certification, which means we contribute to a greener, healthier and fairer world.

And furthermore, we offer:

- An instructive internship where you will receive excellent supervision.
- An internship in an open, socially engaged organisation, with short lines of communication and an informal atmosphere.
- An internship remuneration of €350, - p/m and a travel allowance if you do not have a student-ov.
- A lifestyle programme with various sports activities and attention to a good work-study balance.

Have you become enthusiastic, and do you see yourself as the perfect intern for this role? Send your CV and a short motivation to vacatures@winclove.nl attn Germaine van Wel (HR Business Partner). With substantive questions about the internship, please contact Chrissy Veldhuizen (Lab Technician) at c.veldhuizen@winclove.nl. We look forward to receiving your application!

APPENDIX EXPLANATION INTERNSHIP ASSIGNMENT

Winclove Probiotics develops and produces high-quality probiotic food supplements in powder form. To develop the most effective probiotics, we continuously invest in research and technology. This includes research into the cultivation and fermentation of relevant bacteria.

Winclove Probiotics develops high-quality powdered probiotic nutritional supplements by continuously investing in research and technology. We investigate the optimal biomass production of Bifidobacterium using 250mL shake flasks. Based on these results, we ferment the bacteria in 2L lab bioreactors to determine the influence of pH control, stirring and gas supply on growth.

Fermenting bacteria
For a Bifidobacterium, we would like optimal biomass production. It is up to you to use 250mL shake flasks to investigate which carbon and nitrogen sources result in high biomass production of the Bifidobacterium. Based on your results and obtained knowledge of the bacterium, you will ferment the bacterium in 2L lab bioreactors. In doing so, you will discover the influences of pH control, stirring and gas supply on the growth of the Bifidobacterium.

The method for determining biomass production plays a major role within this task. Traditional methods for this are measuring OD and determining CFU/mL using agar plate counts. You will work with the BactoBox, a small scale bacterial cell counter, and validate it for different strains that are important for Winclove Probiotics. The validation is both on samples taken during fermentation and on samples taken from the downstream process where the broth is processed into powder.

BactoBox
The method for measuring biomass production is essential. We use the BactoBox, a small-scale bacterial cell counter, which we validate for various bacterial strains relevant to Winclove Probiotics. Validation is done both during fermentation and in the downstream process where the broth is processed into powder, to ensure accuracy.

Process in pilot plant
After developing a medium and establishing optimal process parameters at lab scale, an application for scale-up in Winclove's pilot plant can be submitted. The pilot plant has fermenters of up to 400L, a centrifuge and a freeze dryer. In the application, reproducibility, interim controls and survival of the bacteria during powder processing are important criteria. Upon approval, you will supervise the process, collect data and analyse the results.