

Master's degree internship proposal

Development of a point of care test for dogs and cats based on a sandwich magnetic immunoassay technology

Internship profile:

5-6 months master thesis in biotechnology/molecular biology at LifeAssays AB R&D department, Lund, Sweden.

Mission:

The candidate will be in charge to develop a new point of care diagnostic test based on magnetic immunoassay technology, for quantification of a protein analyte. The principle of the test is based on a sandwich immunoassay using silica particles and magnetic nanoparticles both coated with antibody against the analyte. The target analyte forms a sandwich complex between the silica and the magnetic nanoparticles, and, subsequently, the complex sediments under normal gravitation to the bottom of a vial. Then, thanks to an algorithm, the Vetreader machine developed by LifeAssays determine the analyte concentration in the sample by measuring the magnetic permeability of the pellet. As the magnetic nanoparticles are dragged with the analyte in the pellet, the magnetic permeability of the pellet increases.

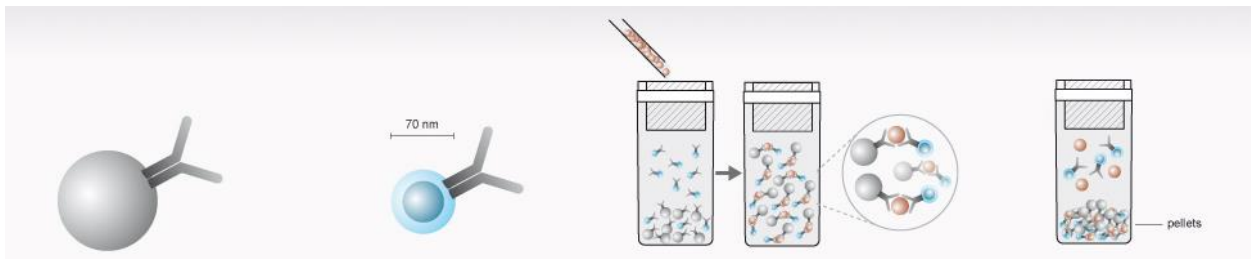


FIGURE 1: silica particle conjugated with antibody against the analyte

FIGURE 2: magnetic nanoparticle conjugated with antibody against the analyte

FIGURE 3: sample containing the analyte is added. The silica, the analyte and magnetic particle form an immune complex

FIGURE 4: pellet consisting of silica particles and immunocomplex settles to the bottom of the reagent vial

Activity:

- Screening of available antibodies
- Immobilization of antibody on silica particles and magnetic nanoparticles
- Test of the different reagents on our system
- Signal optimization (if time)

Skills:

The internship requires good knowledge in molecular biology and some experience with laboratory work. Good organization skills are needed as you will work in an industrial environment and organize your own lab book. We would like someone curious and dynamic who is not afraid to fail and to try something else when this happen. Good writing and English communication are needed.

Place:

LifeAssays is a Swedish diagnostic company focused on providing accurate and affordable point-of-care diagnostic testing for veterinarians based on our unique, patented point-of-care technology platform. The technology was developed at Lund University, Sweden, and is based on small, Nano-size magnetic particles and their subsequent application in biotechnological and medical research. The unique, patented point-of-care technology is composed of Nano-size magnetic particles and a detector system for the identification of biological markers utilizing the technology. This point-of-care platform is the foundation of the diagnostic company LifeAssays.

Contact

Please send your resume and a cover letter to:

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