

## Master's degree internship proposal

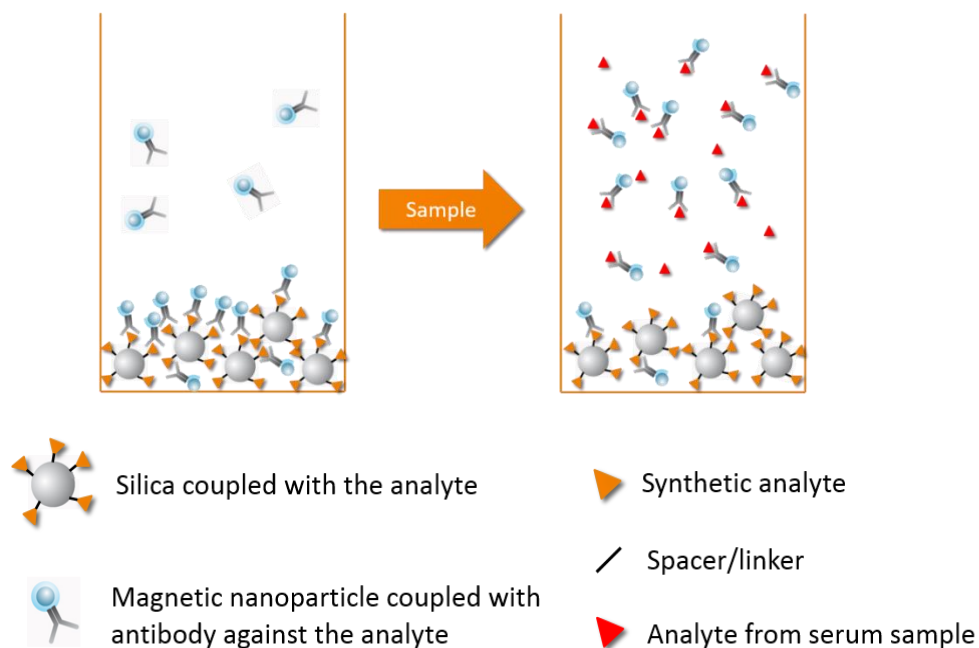
Development of a point of care test for dogs and cats based on a competitive magnetic immunoassay technology

### 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 low molecular weight analyte. This goal will be divided in 2 milestones. This internship will focus on the milestone 1 (see the activity part). The principle of the test is based on a competitive immunoassay using silica particles coated with the analyte and magnetic nanoparticles coated with antibody against the analyte. The target analyte will compete with the analyte coated on silica particles to form an immune complex with the antibody coated on magnetic nanoparticles. Subsequently, the analyte from the sample complexed with magnetic nanoparticle remain in the supernatant while the silica particles sediment under normal gravitation to the bottom of a vial. 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 remains in suspension with the analyte from the sample, the magnetic permeability of the pellet decreases.



### Activity:

#### Milestone 1:

- Immobilization of the analyte on silica particles (selection of spacer/linker, test of stability, test of cross reactivity test with antibodies ...)
- Screening of available antibodies
- Immobilization of antibody on magnetic nanoparticles

#### Milestone 2:

- Test of the different reagents on our system
- Signal optimization

### 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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