



Excellent project



Title:	In house ELISA for infectious diseases (outstanding VL4 or VL5M students)
Vacancy:	One Life Science student (VL5M level; alternatively outstanding at VL4 level)
Credits:	Excellent star after consultation (e.g. gedrevenheid of vakbekwame en reflectieve professional)
Assessment:	Final assessment will be based on technical skills and delivery of a new assay with corresponding protocol
Required skills:	Affinity and proficiency in Medical Microbiology & Immunology
Location:	Heidelberglaan 7, Utrecht
Contact person:	John Bouwman

Background information:

Enzyme-linked immunosorbent assay (ELISA) techniques for the detection of antibodies are widely used throughout the world for the diagnosis of infectious diseases. In clinical microbiology labs, detection of IgG, IgA and IgM antibodies against various pathogens is complementary to the conventional phenotypic detection methods for adequate detection of viral, bacterial, parasitic or fungal infections in patients. Classical enzyme immunoassays provide both a qualitative and quantitative determination of antibodies to multiple infectious disease agents in human serum and plasma.

Objective:

For teaching purposes (e.g. VL4 / VL5M practica and projects) we need to expand the diagnostic package of infectious diseases with enzyme immunoassays. Aim of this excellent project is to design and develop an "in house" ELISA procedure applicable for detection of a broad range of pathogens. After experimental setup the involved student will write a protocol for the new assay procedure.

Approach:

Currently, most ELISA kits include ready-to-use reagents for 96 test formats. The student has to construct (or adapt from other protocols) an in house procedure composed with separate reagents and consumables. These materials have to be ordered and tested. Subsequently, a test format including adequate controls has to be built and protocol must be written. Furthermore students will be challenged to adapt the 96-well procedure to other test formats or platforms.

Applicant profile:

The applicant is preferably an enthusiastic and motivated microbiology student in semester VL5M (alternatively VL4) or has demonstrable affinity with medical microbiology and immunology. The student is proficient in a broad range of microbiological culture and determination techniques. We expect proficient laboratory skills. In addition creativity, critical attitude and perseverance are required.

Additional information:

Are you interested in this project, please feel free to contact me at any time.

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