

NEW HORIZONS IN HLA TYPING

WHEN? Fri 28 April 14:30-15:30

WHERE? Cité des congrès de Nantes
Lower Foyer, Room 150



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A NEW DAWN IN IDENTIFYING PROTECTIVE IMMUNITY FOR NEGLECTED TROPICAL DISEASES

Vaccine development for many neglected tropical diseases (NTDs) is confronted with scientific challenges in target antigen identification and the lack of correlates of protection. Causes are unsuitable preclinical models, genomic complexity of the pathogens, and the remoteness of the affected and impoverished populations. Recent technological evolutions facilitate a new dawn in antigen discovery and defining protective immunity for complex diseases in remote settings. I will present the implementation of our novel pipeline in Ethiopia and how the NanoTYPE part of this platform facilitated our mission.



Dr. rer. nat. Claudia Lehmann
Transplantation Immunology
University Hospital Leipzig

NEW ERA OF HLA TYPING: ADVANTAGES AND CHANCES OF THE NANOTYPE

High-resolution HLA-typing is done in a transplant immunology diagnostic laboratory. Time is always a limiting factor. Especially when urgent samples, as postmortem organ donors must be typed. Oxford-Nanopore-Sequencing brings new opportunities for high-resolution HLA-typing. Here, we present first experiences with Omixon NanoTYPE in our laboratory. The first validation results will be shown, the protocol including the NanoTYPE software is examined/evaluated from a diagnostic laboratory perspective. The advantages are the long reads, which means that e.g. DPB1 can be resolved without cis/trans ambiguities. New technologies are associated with challenges in the handling of large amounts of data and must be planned.



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EPITOPE MATCHING IN RENAL TRANSPLANTATION, AN ODYSSEY

The goal in renal transplantation is to achieve long term patient and graft survival. Cell mediated rejections are thought to be treatable, while humoral rejections are on the long term deleterious. The antigens of the HLA system are in essence the main targets for the antibodies. Accurate HLA typings of organ recipients and donors and definition of the antibody specificity are the state of the art. Incompatible epitopes recognized by specific antibodies are defined. Avoiding them, graft survival rate will increase. Consequently, by predicting epitopes which might lead to antibody production will allow a better organ allocation.