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## **Development of immunodiagnostic tests for leprosy: from biomarker discovery to application in endemic areas**

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## **Stellingen behorend bij het proefschrift getiteld development of immunodiagnostic tests for leprosy: from biomarker discovery to application in endemic areas**

1. Leprosy patients are forced sometimes to hide from relatives, friends, neighbours and co-workers. Despite their social exclusion, they believe their isolation is justified.
2. The large number of undetected leprosy cases is a major threat to leprosy control and contributes to the increased burden of infection in the community and an increased pressure on transmission.
3. A combination of multiple biomarkers, reflecting the diverse host response to *M. leprae*, is required to sensitively detect multibacillary and paucibacillary leprosy patients. (*this thesis*)
4. Elucidation of the delicate balance in immune responses by quantitation of appropriate biomarker signatures can contribute to the identification of individuals at risk of developing leprosy upon *M. leprae* exposure. (*this thesis*)
5. A host biomarker signature of  $\alpha$ PGL-I IgM, IP-10, CRP, ApoA1 and S100A12 covers both the humoral- and cellular pole of the immunopathologic leprosy spectrum. (*this thesis*)
6. Application of novel host-biomarker profiles to rapid, quantitative up-converting phosphor lateral flow assays improves leprosy diagnosis. (*this thesis*)
7. The multi-biomarker test format represents a step forward in the development of the urgently needed immunodiagnostic point-of-care test for detection of *M. leprae* infection and early stage leprosy. (*this thesis*)
8. A test with a sensitivity as low as 50% could already result in a significant reduction of the new case detection rate. This suggests that to reduce transmission the availability of a diagnostic test for subclinical cases is more important than the level of sensitivity, which is very promising. (*Blok et al. PLoS Negl Trop Dis 2018*)
9. Leprosy provides an outstanding model to study host defense and pathogenesis in a human infectious disease, given its clinical spectrum, which interrelates with the host immunologic and pathologic responses. (*Inkeles et al. JCI Insight 2016*)
10. Do not be afraid of difficult moments, the best comes from them. (*adapted from Rita Levi-Montalcini*)
11. Bear in mind that joy is more infectious than leprosy. (*adapted from Baba Amte*)