**Title:**

**Exploring** [**Multi-Drug-Resistance Mycobacterium Tuberculosis Immunogenic Genes Isolated From Parts of Southwest Nigeria as Potential Vaccine Biomarkers**](https://iss.gsk.com/Details.aspx?ID=19223&GroupID=ISS&GroupReset=0)

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**ABSTRACT**(250-300 words)

**Background**: Drug resistant TB strains that are emerging in both hospital and community settings are at different levels of drug resistance genes hence the need for more effective and efficient measure towards prevention. The current norms of six to eight months TB regimen of first-line anti-TB treatment are no longer effective for persons with MDR-TB and XDR-TB. There is need for development of improved anti-TB vaccines which is the surest and the most desirable.

**Objective:** To deploy Genomics-Based approaches to Isolate and identify Multi-Drug Resistant (MDR-TB) strains with the aim of exploring the immunogenic genes on their cell wall as possible biomarkers for Vaccine Development.

**Methods:** The study protocol for this study had been reviewed and approval sought from the Joint Ethical Committee of Federal Ministry of Health and other respective State’s ministries of health. Recruitment of the three hundred consenting TB patients from the selected south western states of Nigeria begun after the approval of the ethics committee had been granted. *Mycobacterium tuberculosis* will be cultured and isolated at the TB Zonal reference laboratory of the University College Hospital, Ibadan. Also, Drug Sensitivity Test for first- and second-line drugs will also be performed at the same laboratory. DNA extraction, Primers design, RT-PCR-RFLP, 16S rRNA, Whole Genome Sequencing Techniques, Comparative genomics analysis will be performed with the reference strain and further bioinformatics tools will be used for the design of potential vaccine candidate. The construct will be subjected to efficacy test in animal model and subsequent clinical trials.

**Expected Results:**

Once the MDR-MTB strains are isolated; it is anticipated that the study will contribute to the development of effective vaccines against MDR-TB strains in Nigeria and beyond.

**BIOGRAPHY**(100-150 words)

Adeoti, Olatunde is a holder of degree in biomedical sciences and currently a PhD student in Microbiology department of Landmark University in Nigeria. He is knowledgeable in clinical microbiology; he is experienced working on human subjects to investigate clinical epidemiological issues such as Tuberculosis, Malaria, HIV, Co-infection. He has expertise in evaluative-diagnosis and prevention of infectious diseases in order to improving the health. He is widely read and published more than fifty articles in internationally renowned peer reviewed journals. He was a recipient of the young scientific award of India in 2016. He is a founder of Face Out malaria and AIDS foundation which is a community-based Organization. He has managed six small grants for community care and supports. He is an employee of the Oke-Ogun Polytechnic, as a lecturer in Microbiology Department. His horizon on immuno-informatics and vaccine development is next-to-none as a key to unlock potentials of disease-free-world.

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