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Dear Sir or Madam,

I am happy to write this letter in support of **Soniran O. Temidayo's** efforts to pursue a research project on investigating the prevalence of drug resistance markers in malaria parasites circulating within the human populations of Nigeria. Mr. Temidayo contacted me recently with a well written, intelligently designed proposal that will serve as the foundation of his PhD dissertation. I was impressed with the effort and thorough nature of his proposal and offered to assist him and his research advisor, Dr. Olufunmilayo Idowu at the University of Agriculture, Abeokuta, in completing the goals outlined for the project.

The development of resistance to anti-malarial drugs by the parasite *Plasmodium falciparum* is a never ending problem. As parasites are exposed to various drug combinations, they acquire genetic mutations that render the drugs ineffective, thus placing large portions of the human population at risk for severe disease. Numerous genetic mutations have been identified that lead to resistance to specific drugs or treatment combinations. By monitoring the frequency of these mutations in the field, it is possible to determine what drug regimens should be utilized in the clinic, and also to investigate how different mutations arise and proliferate within circulating populations of parasites. Recently it has been found that copy number variation of certain genes also can contribute to drug resistance, adding an additional complication to the more common point mutations that have been traditionally identified as responsible for drug treatment failures. Mr. Temidayo has designed a project that utilizes the latest technology in genetic analysis to be able to identify both copy number variation and point mutations in parasites circulating in the field in Nigeria. This will enable him to determine exactly how parasites are responding to the drug treatment protocols currently in place in Nigerian clinics. His study will contribute both to the development of more effective treatments, but also to our understanding of the rise of drug resistance in the field.

Mr. Temidayo has a clear understanding of his research project, and has access to numerous field sites where he can obtain the material needed for his study. This will enable him to collect the clinical data and biological samples needed for successful completion of his project. However, the more sophisticated molecular tools are not available to him at his home institution. I have offered to host him in my laboratory here in New York and to provide him access to our facilities to complete the final parts of his study. Here he can be trained in advanced molecular biology techniques and have access to quantitative tools for mutation analysis, quantitative gene copy number determination and precise drug sensitivity assays. More importantly, having been trained in the application of these tools, he will be able to return to Nigeria with this knowledge, thus

building the capacity of him home institution. The professional ties he builds here in New York will also be valuable as his career advances. We can supply him with all of the reagents and supplies needed to complete this portion of his work, however we don't have funds to support his travel and living expenses during his visit. He is therefore looking for sources of support that would enable him to visit our lab and complete his project. Primarily this includes the cost of airfare from Nigeria to New York (approximately $2,000), with additional funds to cover the cost of room and board for a 1-2 month stay in New York to complete the analysis (approximately $4,000-6,000 in this rather expensive city).

I am confident that if provided with the opportunity to complete his research study, Mr. Temidayo will make a substantial contribution to the scientific community in Nigeria and further our understanding of malaria in West Africa.

Sincerely,

Kirk W. Deitsch, Ph.D.