

Dissertation Evaluation Report

Report No.	Diploma Number: D-BIO1171	Applicant's Name	Chitama Ben-Yeddy Abel
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<p>Evaluation Report of Dissertation</p> <p>1 . Evaluation of the research purpose.</p> <p>The thesis is designed to clarify the character of the reported motif located at N-terminal portion of <i>Plasmodium falciparum</i> SURFIN4.1 called N4 which had been already described as a key determinant for PTEX transportation system using reporter gene transfection and live imaging. The purpose is clearly described and reasonable.</p> <p>2 . Evaluation of the research methods.</p> <p>The N4 portion consisted of 17 amino acids with some essential part of the gene for the transportation and the reporters, GFP and some specific target sequence for antibody recognition, was prepared for the transfection into <i>Plasmodium falciparum</i> cultured strain and its expression was monitored by microscopic live imaging. The N4 portion was genetically modified by substituting an amino acid to alanine one by one to observe the effect. The DNA manipulation was appropriately utilized and the imaging was successfully performed.</p> <p>3 . Evaluation of the analysis, interpretation and discussion.</p> <p>The applicant analyzed the data precisely and appropriately to show the substitution effect was evident that 3 loci of Lysine and 2 loci of Glutamic acid replacement significantly abrogated the transportation to Maurer's cleft. Although there was no direct evidence of interaction between N4 and PTEX, it was successfully proved that N4 was structurally fragile by the loss of several charged amino acids.</p> <p>As stated above, the dissertation will greatly contribute to malariology, and the evaluators uniformly agree that the author should be awarded a Doctor of Philosophy in Medical Science.</p>			