

Review of: "Number and proportion of *P. falciparum* gametocytes vary from acute infection to chronic parasite carriage despite unaltered sexual commitment rate"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Overall summary

The human malaria parasite, *Plasmodium falciparum* infects both human hosts and mosquitoes in endemic countries. The parasite differentiates from an asexual replicative form to a sexual state called a gametocyte, which can transmit from humans to mosquitoes. In the area of seasonal malaria, *P. falciparum* initiates transmission every wet season after a months-lasting dry season by controlling differentiation to gametocytes during persistent infection in the dry season. In this manuscript, the authors investigated the density, proportion, and gene expression of *P. falciparum* gametocytes in blood isolated from patients during the dry season and wet seasons. In addition, the authors characterized the phospholipid profile in patient blood, which may affect gametocytogenesis. The data in this manuscript are convincing and presented by well-designed experiments. This study has a substantial impact on our understanding of the link between seasonal malaria and *P. falciparum* gametocytogenesis. The authors could strengthen their manuscript by addressing the following comments.

Major comments

Line 134-137, Fig.1G. Why do the authors show the contents of lysoPE? As far as I know, lysoPC was clearly shown to be involved in gametocytogenesis, but lysoPE was not shown. Please kindly states the reason why lysoPE was investigated with a suitable reference.

Minor comments

Line 55. Is reference 4 suitable for this sentence? Because Kafsack BF et al. describes a transcription factor essential for gametocytogenesis but not an overall framework for gametocyte development.

Line 60. Should 'gametocytemia' be gametocytes?

Line 60. Is reference 10 suitable for this sentence? In reference 10, Tiburcio M et al. had focused on just cytoadhesive properties, not the place where gametocytogenesis occurs.

Line 64. Should 'oocysts' be ookinetes?

Line 81 and others. 'AP2G' should be AP2-G.

Line 140, 142. Please cite appropriate references that show MSRP1 and GEXP5 are early gametocyte markers.

Line 269, 411, 429, 435,451. Please kindly add the number of references after the author et al. It is hard to identify the

desired reference in the list in the current citation style.