

Publication**Probing Plasmodium falciparum sexual commitment at the single-cell level****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4486703**Author(s)** Brancucci, Nicolas M. B.; De Niz, Mariana; Straub, Timothy J.; Ravel, Deepali; Sollelis, Lauriane; Birren, Bruce W.; Voss, Till S.; Neafsey, Daniel E.; Marti, Matthias**Author(s) at UniBasel** [Voss, Till](#) ;**Year** 2018**Title** Probing Plasmodium falciparum sexual commitment at the single-cell level**Journal** Wellcome Open Research**Volume** 3**Pages / Article-Number** 70

Background;; Malaria parasites go through major transitions during their complex life cycle, yet the underlying differentiation pathways remain obscure. Here we apply single cell transcriptomics to unravel the program inducing sexual differentiation in; Plasmodium falciparum; . Parasites have to make this essential life-cycle decision in preparation for human-to-mosquito transmission.; Methods;; By combining transcriptional profiling with quantitative imaging and genetics, we defined a transcriptional signature in sexually committed cells.; Results;; We found this transcriptional signature to be distinct from general changes in parasite metabolism that can be observed in response to commitment-inducing conditions.; Conclusions;; This proof-of-concept study provides a template to capture transcriptional diversity in parasite populations containing complex mixtures of different life-cycle stages and developmental programs, with important implications for our understanding of parasite biology and the ongoing malaria elimination campaign.

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