

EBV immortalization and characterization of malaria specific B cells from immune donors



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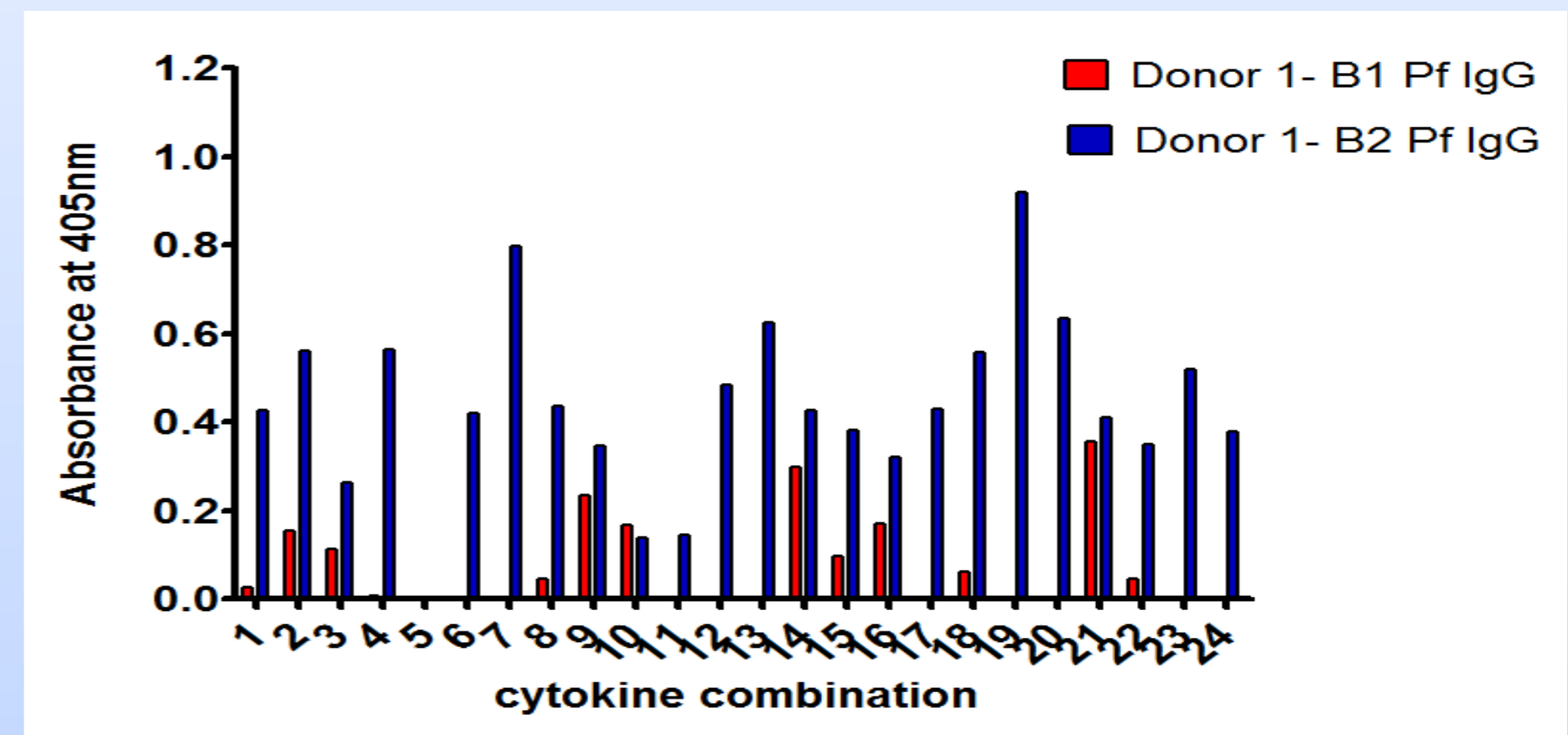
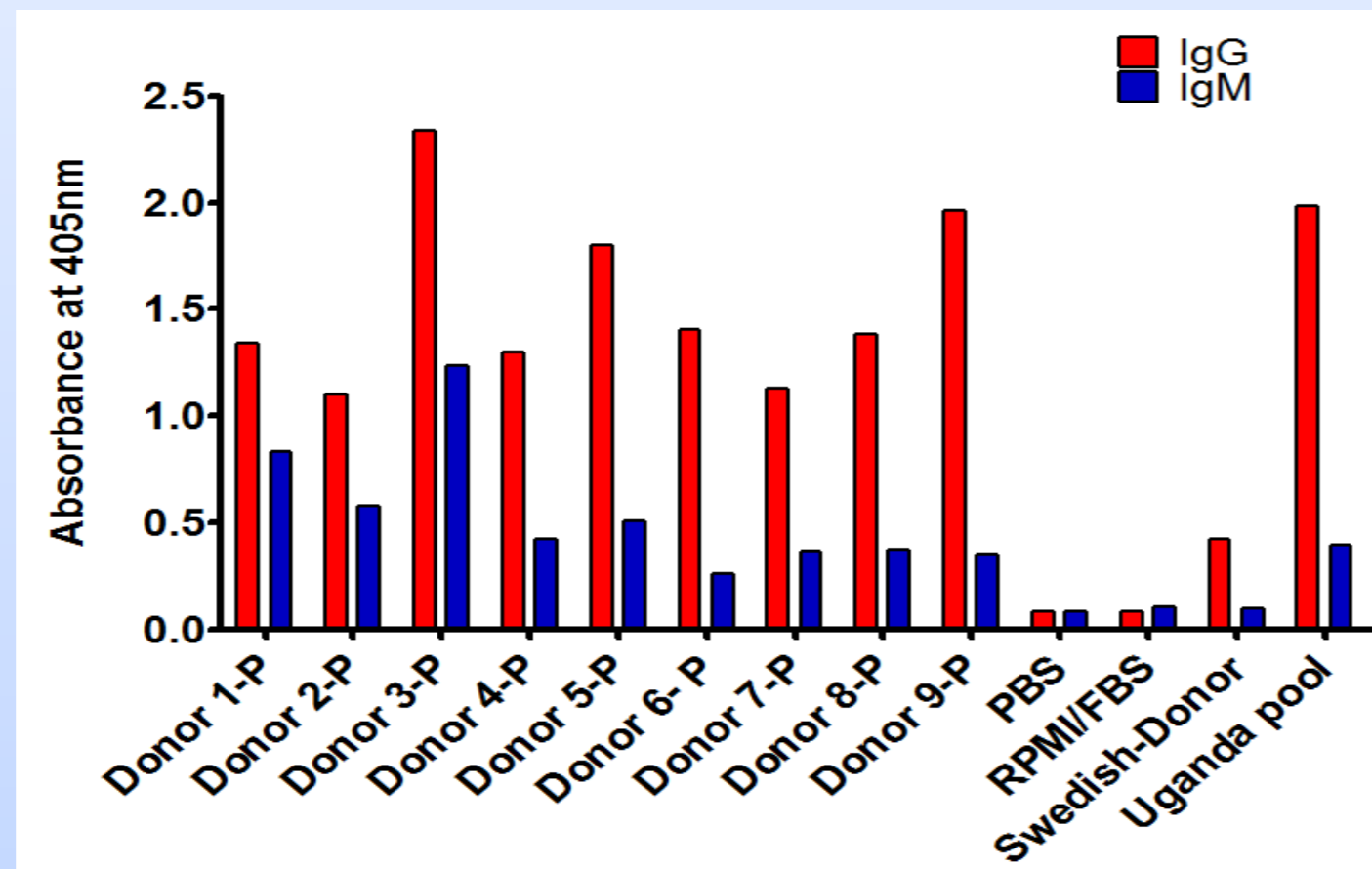
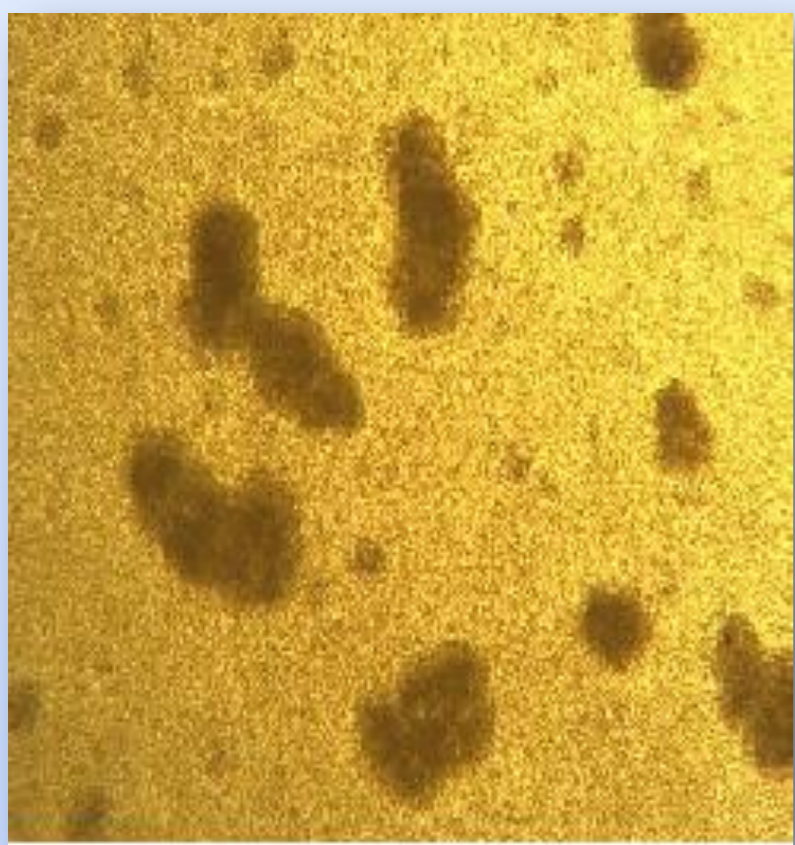
Background & Aim:

Malaria resulting from *Plasmodium falciparum* infection is the major cause of mortality and morbidity. As resistance to anti-malarial drugs is increasing rapidly, more and more focus is shifting towards developing a vaccine against malaria. The aim of this project was to establish and characterize EBV immortalized *P. falciparum* specific B cells which may assist further in designing an effective Malaria vaccine.

Methods:

- Ficoll-hypaque gradient centrifugation was used to isolate lymphocytes from 9 immune donors
- B cells were immortalized by EBV
- Magnetic activated cell sorting method was used to obtain the Schizont extract
- 2 methods for isolation of Malaria specific B cells
 - Labeled parasite antigen-DSB-X biotin with immortalized B cells were incubated then Dynabeads streptavidin were used for isolation of Malaria specific B cells
 - Incubated Schizont extract FCR3S1.2 strain with immortalized B cells then purified the Malaria specific B cells by MACS method
- Parent cell lines and Malaria specific B cell lines were stimulated with combinations of IL2, IL6, IL10, IL15 and IL21
- ELISA test- detected *Plasmodium falciparum* specific antibodies

Results:



- Figure a shows aggregation of lymphoblastoid cell lines which indicates successful transformed B cells
- Figure b shows detection of specific IgG and IgM against FCR3S1.2 strain in plasma samples of immune and non immune donors
- Figure c shows detection of Malaria specific IgG in donor 1 from method 1 and 2 of isolation. The detection was after stimulation with different cytokine combinations

Conclusion:

The produced Malaria specific antibodies can be of assistance in understanding how the immunologic memory against *P.falciparum* is functioning as well as screening for parasite antigens and identifying potential vaccine candidates.

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