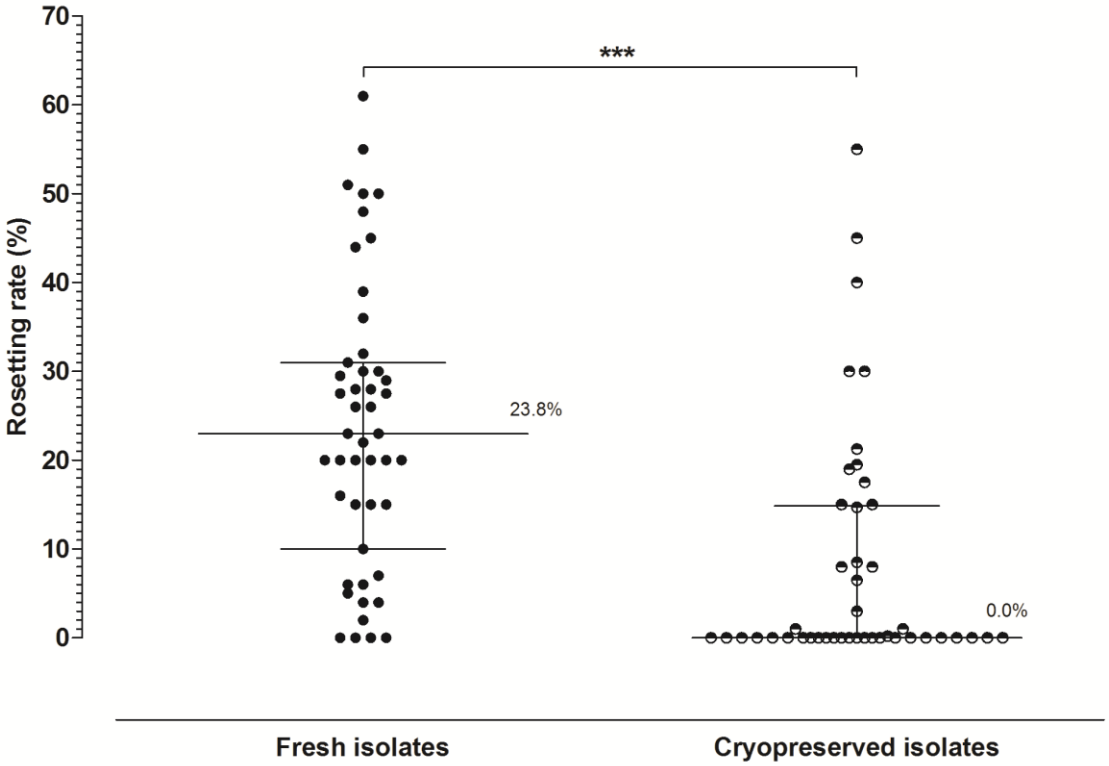
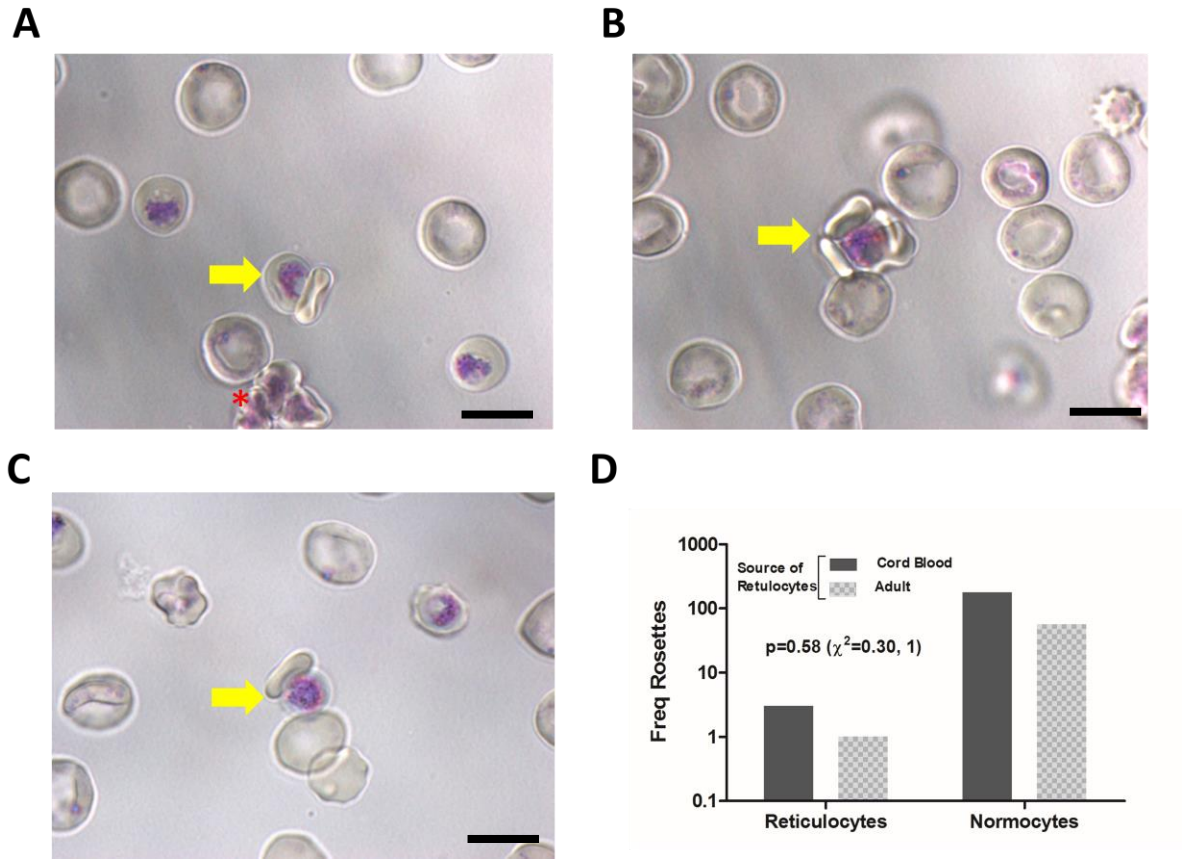
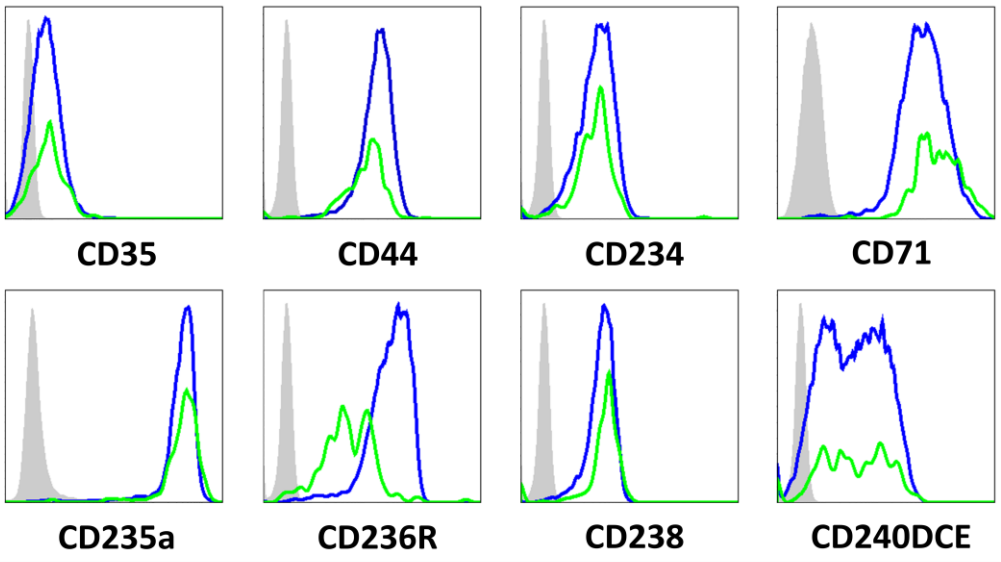


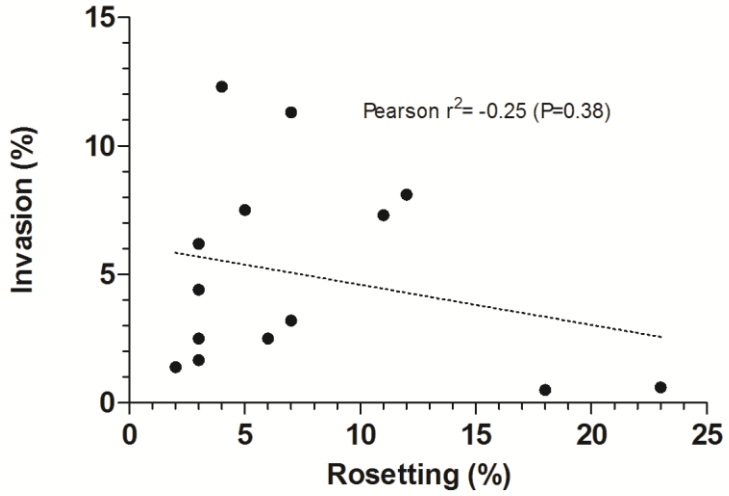

**Supplementary Figure 1: Differences in rosetting rates between fresh *P. vivax* isolates and cryopreserved *P. vivax* isolates**. There is significant difference between median rosetting rates of fresh and cryopreserved *P. vivax* isolates. $P < 0.0001$.




**Supplementary Figure 2: Type of involved in rosetting depending on the source of the reticulocyte (peripheral adult blood or cord blood).** (A, B, C) Concentrated late stage *P. vivax* were exposed to >50% reticulocytes collected from adult peripheral blood (as seen in the three photomicrographs above). After supravital staining with Giemsa; 58 and 183 rosettes were observed from the adult and cord blood respectively. The frequency of these rosettes being associated with at least one reticulocyte was scored. (D) Reticulocytes were rarely involved with reticulocytes. Additionally, there was no significant association (chi$^2$ with yates correction) between the type of red cell involvement and source of reticulocytes used (i.e. The use of cord blood reticulocytes used in this study are unlikely to be a confounding factor in the study of *P. vivax* rosetting). (A) Note that in rare cases we find type II and III reticulocytes in the peripheral blood, and as in cord blood they tend to clump with each other (red asterisk) and not with the parasites. Note also, that only biconcave normocytes (no particulate Giemsa staining pattern) rosette with the parasites (yellow arrow). Black scale bar line represents 10 micrometers.




**Supplementary Figure 3: Phenotype of erythroblasts generated from cord blood CD34+ hematopoietic stem cells.** Flow cytometry histograms showing surface expression of erythrocytic markers in GFP positive cells (CD236R knock down cells in green line) and GFP negative (CD236R+ cells in blue line) and unstained cells in grey line. This figure highlights that the knockdown cells have a normal phenotype in terms of seven other characteristic erythrocytic receptors (CD35, CD44, CD234, CD71, CD235a, CD238 and CD240DCE).




**Supplementary Figure 4: Relationship between invasiveness and rosetting rate in *P. vivax*.**
The percentage of cord blood reticulocyte invasion is compared with the percentage rosette formation in 14 *P. vivax* isolates. There is no significant correlation between invasion success and rosette prevalence. This unpublished data set is extracted from invasion experiments conducted on *P. vivax* schizont preparations not treated with trypsin (see figure 2 in Russell *et al* 2011 [24]).